

SELF-LEADERSHIP, LEADERSHIP STYLES, AND EMPLOYEE
ENGAGEMENT: TESTING MODERATION MODELS

Luke Scott James Crossen

Dissertation submitted in partial fulfilment of the requirements for the degree of
Master of Science in Applied Psychology

UNIVERSITY OF CANTERBURY

Department of Psychology

2015

Table of Contents

Title page.....	1
Table of Contents.....	2
Acknowledgements.....	4
Abstract.....	5
Introduction.....	6
Literature review and conceptual framework.....	8
The emergence of self-leadership.....	8
Leadership style: leading others.....	11
Rationale for the research and theoretical framework.....	13
Leading yourself to lead others.....	13
Leadership and contextual factors.....	17
Towards an integrated model: follower engagement.....	20
<i>Figure 1: The expanded self-leadership model</i>	23
Method.....	23
Participants and procedure.....	23
Sampling.....	23
Sample.....	24
<i>Table 1: Demographics for the effective sample from organisations A and B..</i>	24
Procedure.....	24
Measures.....	25
Self-leadership.....	25
Leadership style.....	26
Formalisation.....	27
Engagement.....	28
Statistical Analyses.....	29
Results.....	30
Preliminary Analyses.....	30
Dimension Structures.....	30
Descriptive Statistics.....	31
<i>Table 2: Correlations, means, standard deviations, and Cronbach Alphas....</i>	34
<i>Table 3: Interrater agreement for follower ratings.....</i>	35
<i>Table 4: Intraclass correlation coefficients.....</i>	35
Testing the research hypotheses.....	36
The relationship between a leaders' self-leadership and followers' perceptions of transformational leadership (hypotheses 1a-c), and the moderating effects of formalisation (hypothesis 2a).	36
<i>Table 5: Multilevel models (means-as-outcomes regressions) with leaders self-leadership (level 2 predictor) and transformational leadership (level 1 outcome).....</i>	38
The relationship between a leaders' self-leadership and followers' perceptions of transactional leadership (hypothesis 1d), and the moderating effects of formalisation (hypothesis 2b).....	39
<i>Table 6: Multilevel models (means-as-outcomes regressions) with leaders self-leadership (level 2 predictor) and transactional leadership (level 1 outcome).....</i>	40

Self-leadership, leadership styles and employee engagement: Testing moderation models

The relationship between self-leadership and passive leadership (hypotheses 1e-g).....	40
<i>Table 7: Multilevel models (means-as-outcomes regressions) with leaders self-leadership (level 2 predictor) and passive leadership (level 1 outcome)...</i>	41
Follower engagement as an outcome of leadership style (hypotheses 3a-c).....	41
<i>Table 8: Multilevel models (means-as-outcomes regressions) with leadership style (level 1 predictor) and follower engagement (level 1 outcome).....</i>	42
Discussion.....	43
General discussion.....	43
Limitations and strengths of the research.....	45
Sample size.....	45
Generalisability.....	46
Design.....	47
Suggested future research.....	49
Implications for research and practice.....	51
Conclusion.....	53
References.....	54
Appendices.....	66
Appendix A – Follower and leader invitation to participate.....	66
Appendix B – Participant consent form.....	68
Appendix C – Information and instructions.....	69
Appendix D – Example of survey formatting.....	70
Appendix E – Survey items.....	71
Appendix F – Results of factor analysis for ASLQ.....	73
Appendix G – Results of factor analysis for formalisation subscale.....	74
Appendix H – Results of factor analysis for UWES-9.....	75
Appendix I – Summarised results.....	76

Acknowledgements

I would like to thank my supervisor, Joana Kuntz, for her guidance, patience, and support throughout this project. I have learnt a great deal under her tutelage. Thanks are also due to Katharina Naswall for her assistance with the statistical analyses. Special thanks to Bruce Jamieson, my grandfather: you are a fount of knowledge, wisdom, and insights. Finally, I would like to thank the participating organisations for their help. Without their cooperation and generosity, this research would not have been possible.

Self-leadership, leadership styles and employee engagement: Testing moderation models

Abstract

The extent to which a leader engages in self-leadership strategies (behaviour-focussed strategies, natural-reward strategies, and constructive thought-pattern strategies) can influence how they lead others. The present research sought to develop an integrated model of self-leadership by examining the mediating influences of leadership style, and moderating effects of organisation formalisation, upon the relationship between self-leadership and follower engagement. The model was tested empirically by gathering self-ratings of self-leadership from 30 leaders, and ratings of leadership style, formalisation, engagement from a sample of 73 followers, from two large New Zealand organisations. Multi-level modelling was employed to analyse the nested data structure for followers (level 1) and leaders (level 2). Overall, the results suggest a positive relationship between a leader's behaviour-focussed strategies and transformational leadership. Formalisation was not found to moderate the relationship between self-leadership and leadership style, but was found to relate significantly to idealised influence behaviour and individual consideration, and contingent rewards. Lastly, follower engagement was related positively to active leadership and related negatively to passive leadership. The results of the current research suggest that teaching behaviour-focussed strategies should be included within leadership development programmes. Lastly, self-leadership may be worthy of inclusion in future leadership models.

Introduction

Traditionally, leadership research has focussed upon the ways in which leaders influence their followers (Stewart, Courtright, & Manz, 2011). Manz and Sims (1980) introduced a different perspective, termed self-leadership, which turned inwards to examine how leaders led and managed themselves (Furtner & Rauthmann, 2010). Broadly speaking, self-leadership may be understood as the process by which one influences their thoughts and behaviour (Neck & Manz, 2010).

Extensive research has since claimed that self-leadership is fundamental for effective leadership (e.g. Furtner, Baldegger, & Rauthmann, 2013; Manz & Sims, 1991; Pearce, 2007; Reichard & Johnson, 2011; Stewart, et al., 2011). Although hypotheses concerning the link between self-leadership and leadership behaviours have been suggested (see Drucker, 1999; Manz & Sims, 1991), to date only one study has tested empirically the relationship between leader adoption of self-leadership strategies and follower perceptions of leadership style (Furtner, et al., 2013). Furtner and colleagues (2013) found that leaders' self-leadership was associated positively with active styles of leadership (namely, transformational and transactional leadership) and associated negatively with passive styles of leadership (*laissez-faire* leadership) (Bass, 1985; Bass & Avolio, 1995). Importantly, follower perceptions of leadership style have been linked to follower engagement (Bakker & Demerouti, 2008), absenteeism (Walumbwa & Lawler, 2003), job satisfaction (Walumbwa, Wang, Lawler, & Shi, 2004), and performance outcomes (Balducci, Fraccaroli, & Schaufeli, 2010). While research has suggested the role of contextual factors in self-leadership expression, particularly formalisation, i.e. the extent to which adherence to rules and policies is expected within an organisation (e.g. Cohen, Ledford, & Spreitzer, 1996; Mathieu, Gilson, & Ruddy, 2006; Moravec, Johannessen, & Hjelmas, 1998; Shaw, Gupta, & Delery, 2001), the interaction of self-leadership and formalisation has been examined only in relation to team

Self-leadership, leadership styles and employee engagement: Testing moderation models

effectiveness (Tata & Prasad, 2004). Moreover, Tata and Prasad (2004) studied the self-leadership of teams, rather than an individual leader's self-leadership, and its contributions to behavioural outcomes. The study of a leader's self-leadership may help to isolate the impact of leader characteristics to relevant follower and organisational outcomes. One such outcome of relevance is follower engagement. Higher engagement in followers has been attributed to transformational leaders (Ghadi, Fernando, & Caputi, 2013). Examining a leader's self-leadership, their leadership style, the organisation's level of formalisation, and follower engagement, may lay the foundations for developing an integrated model of self-leadership.

The objectives of the present study are to test: a) the relationship between leader adoption of self-leadership strategies and follower perceptions of leadership styles, b) the moderating influence of formalisation upon this relationship, and c) the moderated mediation effects of these variables on team engagement. To address these objectives, ratings of self-leadership, leadership style, formalisation, and engagement have been gathered from both leaders and followers.

The research begins with a review of self-leadership and theories of leadership. Next, the rationale for the research is explained and hypotheses generated. The method section outlines the procedure and study design used to investigate the research questions. The findings of the study are presented within the results section. Finally, the discussion section offers research-informed explanations for the results found, discussing the limitations and applications of the present study, as well as recommending avenues for future research.

Literature Review and Conceptual Framework

The Emergence of Self-leadership

The term ‘self-leadership’ refers to the process by which individuals influence their thoughts and behaviour through the use of cognitive, affective, and motivational–volitional processes (e.g., Furtner & Rauthmann, 2010; Furtner, Rauthmann, & Sachse, 2010; Neck & Manz, 2010). Self-leadership theory developed from early self-influence motivational theories, such as self-management theory (Manz & Sims, 1980), social-cognitive theory (Bandura, 1986), control theory (Carver & Scheier, 1998), self-regulation theory (Kanfer, 1970; Carver & Scheier, 1981), and self-determination theory (Deci & Ryan, 1985; 1987). Many of these early theories focussed on individuals’ adoption of self-influence strategies to reduce or eliminate undesirable behaviours and increase desired behaviours, particularly in clinical settings (e.g. Bandura, Ross, & Ross, 1961; Holt & Brown, 1931). Subsequently, the concept of self-influence gained increased traction in organisational literature, given its potential applications for improving individual performance (e.g. Andrasik & Heimberg, 1982; Cohen, Chang, & Ledford, 1997; Luthans & Davis, 1979; Manz, 1986; Manz & Sims, 1980, 1987; Uhl-Bien & Graen, 1998). Early organisational research on self-influence examined strategies by which employees may self-influence their behaviours to improve performance (c.f. Hackman, 1986; Luthans & Davis, 1979; Manz, 1986; Neck & Manz, 2010). Examples of self-influence strategies include self-observation (Mahoney & Arnkoff, 1979), self-management of cues (Manz, 1986; Manz & Sims, 1980; Neck & Manz, 2010), self-goal setting (Locke & Latham, 1990; Manz & Sims, 1980; 1990), self-reward/criticism (Mahoney & Arnkoff, 1979; Manz & Sims, 1980; 2001; Neck & Manz, 2010), and rehearsal (Manz, 1992; Manz & Sims, 1980; Thoresen & Mahoney, 1974).

Self-leadership is a complex and multifaceted construct, with research proposing three primary dimensions (e.g. Houghton & Neck, 2002; Neck & Houghton, 2006):

Self-leadership, leadership styles and employee engagement: Testing moderation models

behaviour-focussed strategies, natural-reward strategies, and constructive thought pattern strategies. Respectively, these dimensions reflect the behavioural, motivational, and cognitive facets of the self-leadership construct.

Behaviour-focussed strategies comprise a set of self-attentional processes (i.e. self-observation, self-goal setting, self-reward, self-correcting feedback, and self-cueing) by which individuals identify and eliminate undesirable behaviours and replace them with adaptive behaviours (Houghton & Neck, 2002; Neck & Houghton, 2006). Self-observation assesses personal behaviours that should be changed or eliminated (Mahoney & Arnkoff, 1978; 1979; Manz & Sims, 1980). Self-goal setting involves the setting of specific, challenging, and realistic goals to motivate and direct performance-oriented behaviours (Locke & Latham, 1990; Mahoney & Arnkoff, 1978; 1979; Manz & Sims, 1980). Self-rewards are often contingent on the completion of self-set goals, and frequently involve tangible self-set rewards. Self-correcting feedback involves the self-assessment of unsuccessful behaviours in order to improve future behaviours (Manz & Sims, 2001). Self-cueing involves using environmental tools such as calendars or to-do-lists to direct goal-oriented behaviour (Houghton & Neck, 2006; Neck & Manz, 2010). As an example, a leader engaging in behaviour-focussed strategies might identify their habit of micromanaging, set the goal to reduce this tendency, and monitor progress towards this goal.

Natural-reward strategies involve incorporating enjoyable or pleasant aspects into tasks. This can be accomplished by focusing upon the intrinsically rewarding characteristics of tasks, selecting intrinsically rewarding tasks, and attempting to reappraise unpleasant tasks as pleasant, all in order to increase feelings of competence, self-control, and purpose (Deci & Ryan, 1985; Furtner, et al., 2013; Neck & Houghton, 2006). Therefore, natural-reward strategies are concerned with the generation and maintenance of intrinsic motivation (Neck & Manz, 2010). An example of natural-reward strategies in action would be an accountant

Self-leadership, leadership styles and employee engagement: Testing moderation models

choosing to focus on the satisfaction of job tasks requiring complex calculations, rather than on the tedium experienced from menial tasks (e.g., data entry).

Lastly, constructive thought–pattern strategies focus upon positive patterns of perception and thought in order to foster optimistic and adaptive thinking patterns, and reduce dysfunctional thought patterns. Cognitive thought–pattern strategies also include positive self–talk (e.g. vocalising the belief in one’s ability to complete a given task) and constructive mental images (e.g. visualising the successful delivery of a proposal to potential clients). Several studies suggest that positive thought patterns, self–talk, and mental imagery have a positive impact on performance outcomes (Neck & Houghton, 2006; Neck & Manz, 1992, 1996). Such processes can help avoid negative cognitive states (e.g. pessimism, self–doubt, and irrational thinking) and promote effective cognitive processing (Burns, 1980; Ellis, 1975). A meta–analysis by Driskell, Copper, and Moran (1994) suggests that constructive mental imagery before tasks leads to consistently higher performance on tasks. Finally, there is a large body of literature, particularly in sports psychology, which supports the assertion that constructive thought patterns improve individual performance (see Neck & Manz, 1992).

Importantly, self-leadership strategies differ from self-management in several ways (Manz, 1986). Self-leadership focuses on higher order aspects of self-governance, by integrating concepts of intrinsic motivation and a wider range of self-influence strategies. In contrast, self-management relies primarily on extrinsic motivation (Kanfer & Gaelick–Buys, 1991). Stated alternatively, self-management might best be conceptualised as being concerned with “*how* work is performed to meet standards and behaviours that are externally set” (Manz, 1991, p. 17), whereas self-leadership is not only concerned with the *how* of work, but also to “*what* is to be done (the standards and objectives) and *why* (strategic purpose)” (Manz, 1991, p. 17).

Self-leadership, leadership styles and employee engagement: Testing moderation models

The original concept of self-leadership (Manz, 1986) focussed upon the intra-individual self-regulatory processes rather than inter-individual relational processes (see Furtner, Rauthmann, & Sachse, 2010). Recent scholarship has since included the latter, incorporating interpersonal and social aspects within self-leadership dimensions (Furtner, Rauthmann, Seubert, & Baldegger, 2011; Ho & Nesbit, 2009). It may be argued that if self-regulatory processes have some impact on interpersonal processes, then leaders' leadership styles ought to be influenced by their self-leadership (Furtner, et al., 2013; Manz & Sims, 1991; Pearce, 2007; Stewart et al., 2011).

Leadership Style: Leading Others

Combining aspects of trait, behavioural, and Leader-Member Exchange theories, the Full Range Leadership Model integrates transformational, transactional, and passive leadership (laissez-faire leadership) theories, and is perhaps currently the most widely accepted framework of leadership behaviours (Bass, 1985; Bass & Avolio, 1995; Judge & Piccolo, 2004; Sosik & Jung, 2010). The origins of the model can be traced to Burns' (1978) influential paper in which he proposed the transformational and transactional leadership distinction to explain political leadership behaviours. The terms were further operationalised, refined, and applied to organisations by Bass (1985), and this led ultimately to the proposal of the Full Range Leadership Model by Bass and Avolio (1994; 1995; 1999).

Transformational leadership refers to the set of leader behaviours by which leaders inspire a group (typically their followers) to pursue goals and attain results through appeal to a value proposition and goal alignment, and a developmental focus (Bass, 1985; Burns, 1978). Transformational leaders give meaning, purpose, and direction to followers' work activities by leading followers with enthusiasm, inspiration, charisma, motivation, and emotional focus (Bass, 1990; Harms & Crede, 2010). Moreover a transformational leader taps into what followers deem intrinsically motivating in order to maximise positive

Self-leadership, leadership styles and employee engagement: Testing moderation models

outcomes (Shamir, House, & Arthur, 1993). There are four dimensions of transformational leadership. Idealised influence concerns the extent to which a leader is a charismatic role model, one that leads followers to emulate and internalise his or her ideals and values (Avolio & Bass, 1999; Bass, 1985; Bass & Avolio, 1995). Inspirational motivation refers to a leader's ability to communicate effectively inspirational visions for the future by fostering team spirit and motivation through the formulation and dissemination of a compelling vision (Avolio & Bass, 1999; Bass, 1985; Bass & Avolio, 1995; Shamir, 1991). Intellectual stimulation is a leader's ability to stimulate follower thinking by supporting and encouraging the creativity, innovation and critical thinking of those around them (Avolio & Bass, 1999; Bass, 1985; 1999; Bass & Avolio, 1995). Finally, individual consideration addresses a leader's genuine care for others, as evidenced by leaders attending to the developmental needs (e.g. the setting of personal and professional goals) of followers and fostering personalised relationships (Avolio & Bass, 1999; Bass, 1985; Bass & Avolio, 1995).

Transactional leadership refers to the exchange processes (Yukl, 1994), among leaders and followers, whereby leaders lead followers to perform through the use of contingent rewards (Burns, 1978). That is, there is an established reward structure where incentives (or punishments) are tied to performance standards. Much of transactional leadership theory draws upon Maslow's hierarchy of needs (Maslow, 1943) and Vroom's Expectancy Theory (Vroom, 1964). Bass (1985) claims that transactional leaders are concerned largely with improving performance, decreasing resistance to specific actions, and implementing decisions. Transactional leadership comprises three dimensions. First, contingent reward, as discussed above, refers to the explicit linkage between performance standards and rewards/punishment. Second, active management-by-exception (MBE) refers to the degree to which a leader actively searches for instances of deviations from rules or standards to avoid or reduce poor performance (Bass & Avolio, 1995; 1996; 1999). And

third, passive MBE describes the behaviour of a leader who intervenes only after poor performance has been detected or standards violated (Bass & Avolio, 1995; 1996; 1999).

Transformational leaders go beyond transactional leaders in that they motivate followers intrinsically, inspire those around them, hold a genuine concern for developing followers' skills and developing personalised relationships, seek to change organisational culture rather than operating merely within it, and lead proactively rather than reactively (Williams, Parker, & Turner, 2010). However, it would be a mistake to claim that transactional leaders are inevitably ineffective managers (Bryant, 2003) as transactional leadership styles can be beneficial, in some circumstances, as some individuals may respond well to contingent rewards (Harackiewicz & Manderlink, 1984), especially if the selected rewards are valued highly (Hargis, Wyatt, & Piotrowski, 2011).

In contrast, laissez-faire leadership describes a passive leadership style (Antonakis, Avolio, & Sivasubramaniam, 2003; Avolio & Bass, 1999). First introduced by Lewin, Lippitt, and White (1939), a laissez-faire leader relinquishes full responsibility for decisions to followers. In other words, laissez-faire leaders delegate without guidance or support, rendering this a particularly ineffective leadership style (e.g., Avolio, 2011; Bass & Avolio, 1995; Judge & Piccolo, 2004). Schermerhorn, Hunt, & Osborn (2008) characterise laissez-faire leaders as avoidant of decision-making or giving feedback. To summarise, laissez-faire leadership may be thought of as 'passive' leadership, the antithesis of the 'active' leadership styles of transformational and transactional leaders.

Rationale for the Research and Theoretical Framework

Leading Yourself to Lead Others

There are clear theoretical grounds for linking self-leadership to leadership style. For instance, Judge and Bono (2000) found that extraversion, conscientiousness, and openness to experience were strong predictors of transformational leadership. Equally, these personality

Self-leadership, leadership styles and employee engagement: Testing moderation models

dimensions are predictive of self-leadership, suggesting there might be a commonality between leadership style and self-leadership (Furtner & Rauthmann, 2010; Stewart, Carson, & Cardy, 1996). Self-regulatory processes, including self-observation and self-goal setting, are linked inextricably to transformational leadership (Bass & Bass, 2008; Neck & Houghton, 2006; Tekleab, Sims, Yun, Tesluk, & Cox, 2008). Self-regulatory processes underpin many of the behaviour awareness and volitional strategies involved in eliminating maladaptive behaviours and developing adaptive behaviours (Bass & Bass, 2008; Neck & Houghton, 2006). Thus, leaders who engage in self-regulatory processes are likely to be more successful in goal pursuit (Ashford & Tsui, 1991; Day, 2000; Tsui & Ashford, 1994). Importantly, self-regulation has been linked positively to transformational leaders (Murphy, 2002).

Charismatic leaders (a dimension of transformational leadership) evidence a higher degree of self-attention and purposeful actions (Shamir, 1991; Sosik & Dworakivsky, 1998). Manz and Sims (1991) posit that leaders must first lead themselves before they can lead others in an effective and charismatic manner. Research has also suggested that charismatic leadership is associated with self-goal setting, self-observation, visualising successful performance, evaluating beliefs and assumptions, and task motivation strategies (Chung, Chen, Yun-Ping Lee, Chun Chen, & Lin, 2011), each facets of self-leadership.

There is both theoretical and empirical evidence to support a positive association between self-leadership and transformational leadership. For instance, there is a commonality between the personality traits predictive of self-leadership and transformational leadership (see Bono & Judge, 2004; Digman, 1997; Furtner & Rauthmann, 2010; Furtner, et al., 2011a; Judge & Bono, 2000). Research highlights that self-observation and self-goal setting are prerequisites for vision setting (Bass & Bass, 2008; Tekleab et al., 2008), the latter of which is a component of transformational leadership (Bass & Bass, 2008). Additionally, task motivation, which includes intrinsic motivation strategies, is a key component of self-

Self-leadership, leadership styles and employee engagement: Testing moderation models

leadership, and research has indicated that transformational leaders are primarily driven by intrinsic motivation (e.g., Brown & Fields, 2011; Ilies, Morgeson, & Nahrgang, 2005; Shamir, et al., 1993). Finally, visualising successful performance, a facet of constructive thought patterns, has been linked to leadership effectiveness and performance (Brown & Fields, 2011; Shamir, et al., 1993).

This body of research and theorising led to the formulation of 12 hypotheses to be investigated in the current research.

Hypothesis 1a: *The self-leadership dimension behaviour-focussed strategies will be associated positively with transformational leadership (intellectual stimulation, idealised influence behaviour, idealised influence attribute, individualised consideration, and inspirational motivation).*

Hypothesis 1b: *The self-leadership dimension natural-reward strategies will be associated positively with transformational leadership (intellectual stimulation, idealised influence behaviour, idealised influence attribute, individualised consideration, and inspirational motivation).*

Hypothesis 1c: *The self-leadership dimension constructive thought-pattern strategies will be associated positively with transformational leadership (intellectual stimulation, idealised influence behaviour, idealised influence attribute, individualised consideration, and inspirational motivation).*

It is expected that self-leadership will also be related positively to transactional leadership. Self-correcting feedback evaluates progress towards self-set goals (Manz & Sims, 1980) and, similarly, transactional leaders rely heavily upon their ability to clarify goals and objectives, deliver constructive and corrective feedback to followers, and provide feedback on goal achievement (Bass & Bass, 2008). Lastly, in order to set performance goals and criteria for followers, the hallmark of a transactional leader (Avolio, 2011; Bass & Avolio,

Self-leadership, leadership styles and employee engagement: Testing moderation models

1995), one must first start directing their own goal setting through self-observation, self-goal setting, and self-correcting feedback (behaviour-focussed strategies).

Hypothesis 1d: *The self-leadership dimension of behaviour-focussed strategies will be associated positively with transactional leadership (active management-by-exception and contingent rewards).*

Passive leadership, by definition, is in stark contrast to self-leadership (an agentic quality) (Furtner & Rauthmann, 2010; Furtner, et al., 2011a; Furtner, et al., 2013). As discussed, self-leadership is thought to be linked positively to leadership effectiveness, whereas passive leadership results in a range of negative consequences (e.g., Avolio, 2011; Bass & Bass, 2008; Makiney, Marchioro, & Hall, 1999; Sosik & Jung, 2010). Passive leaders do not engage in goal-setting for their followers as they shirk such leadership responsibilities, and, therefore, are unlikely to engage in goal-setting for themselves, which is a key feature of self-leadership (e.g. Manz & Sims 1987). Moreover, self-leadership requires self-observation to monitor ineffective behaviours (Mahoney & Arnkoff, 1978, 1979; Manz & Sims, 1980), and self-observation requires a degree of proactivity, qualities which, by their very definition, avoidant leaders lack. Natural-reward strategies involve applying self-control and seeking purpose in work tasks to improve intrinsic motivation (Deci & Ryan, 1985), qualities laissez-faire leaders are likely to lack. Lastly, constructive thought-pattern strategies require a degree of self-insight and reflection (Neck & Houghton, 2006) unlikely to be exhibited by a laissez-faire leader. Therefore, laissez-faire should be associated negatively with self-leadership.

Hypothesis 1e: *The self-leadership dimension behaviour-focussed strategies will be associated negatively with passive leadership (passive management-by-exception and laissez-faire leadership).*

Self-leadership, leadership styles and employee engagement: Testing moderation models

Hypothesis 1f: *The self-leadership dimension natural-reward strategies will be associated negatively with passive leadership (passive management-by-exception and laissez-faire leadership).*

Hypothesis 1g: *The self-leadership dimension constructive thought-pattern strategies will be associated negatively with passive leadership (passive management-by-exception and laissez-faire leadership).*

Leadership and Contextual Factors

Self-leadership and leadership style are expressed within specific organisational contexts, and, arguably, are influenced by these contexts. Research has indicated that the availability of training opportunities contributes to the degree to which leaders engage in self-leadership, especially for those without a natural proclivity towards self-leadership (e.g. Frayne & Geringer, 2000; Frayne & Latham, 1987; Godat & Brigham, 1999; Latham & Frayne, 1989; Neck & Manz, 1996). Further, the content and methods of training can shape how self-leadership manifests itself in one's work (Frayne & Geringer, 2000; Frayne & Latham, 1987; Latham & Frayne, 1989; Stewart, Carson, & Cardy, 1996). Culture, both at an individual-level (Alves, et al., 2006; Neubert & Wu, 2006) and team-level (Kirkman & Shapiro, 2001), determines the extent to which individuals engage with self-leadership strategies, with self-leadership, being more prevalent in teams within collectivist cultures (Kirkman & Shapiro, 1997). Specific ways of structuring reward systems may also influence the extent to which individuals engage in self-leadership strategies. For instance, peer evaluation systems typically enhance self-leadership (Cooke, 1994; Shaw, Gupta, & Delery, 2001; Druskat & Wolff, 1999; Erez, Lepine, & Elms, 2002; Stewart, Courtright, & Barrick, 2010). Lastly, a particularly important contextual variable for self-leadership is formalisation (i.e., the extent to which rules and policies dictate behaviour within an organisation). Tata and Prasad (2004) found the effects of team self-leadership on team performance to be stronger under low

Self-leadership, leadership styles and employee engagement: Testing moderation models

levels of formalisation. That is, when the organisational context is less prescriptive, allowing for some behavioural discretion (e.g., fewer rules or instances red tape restricting the expression of self-leadership), self-leadership was expressed to a greater extent, and had a positive impact on team performance.

Despite evidence that both self-leadership and leadership styles are influenced by contextual factors, to date no studies have examined the role of organisational context on the relationship between self-leadership and perceived leadership style. The present research aims to address this gap by testing the possible moderating influence of formalisation upon the relationship between self-leadership and leadership style.

Formalisation has its roots in literature discussing organisational structure, alongside the related concepts of centralisation and decentralisation (e.g. Brass, 1984; Schminke, Ambrose, & Cropanzano, 2000). Formalisation is the process by which organisations shape their norms through the use of rules, processes, and policies. Often seen as a negative construct, formalisation is informally referred to as “red tape,” and a highly formalised organisation may be described as excessively bureaucratic (Tata & Prasad, 2004).

It is logical that the setting of, and adherence to, standard rules and procedures may impact on the extent to which a leader can exhibit certain leadership behaviours. Formalisation, by definition, restricts organisation members’ (leaders and followers alike) breadth of permissible approaches for completing tasks, and the degree of autonomy that employees may exercise over their behaviour at work (Naughton & Outcalt, 1988; Patterson, et al., 2005). Thus, in a highly formalised organisation, a leader might be constrained and restricted in their approach to leading. Stated differently, the ability for a leader to manifest externally their self-leadership strategies, in such circumstances, may be inhibited. For instance, natural-reward strategies may not be possible in highly formalised environments, as rules, processes, and policies may dictate which tasks are to be done and how, potentially

Self-leadership, leadership styles and employee engagement: Testing moderation models

precluding the selection of intrinsically motivating tasks. In turn, a leader's ability to select or highlight intrinsically motivating aspects of work for followers may be inhibited. Intrinsic motivation is a key driver for transformational leaders (Brown & Fields, 2011; Ilies, Morgeson, & Nahrgang, 2005; Shamir, et al., 1993). Furthermore, in a highly formalised environment, a leader's behavioural manifestation of charisma and individualised consideration may be filtered or even restricted by rules and policies. The 'high-flying' transformational leader may not be able to engage fully in inspirational motivation, idealised attributes or behaviours, or intellectual stimulation because their leadership behaviours are constrained or prescribed by the rules under which they operate. On the other hand, low-levels of formalisation enable a greater degree of behavioural autonomy in decision-making (Uhl-Bien & Graen, 1998), and these are prerequisites of the inspirational and agile leadership characteristic of a transformational leader. Finally, natural reward strategies, which involve selecting intrinsically rewarding tasks (Neck & Houghton, 2006), may be constrained when organisations dictate what and how tasks are to be done. As noted, research has indicated that transformational leaders are primarily driven by intrinsic motivation (e.g., Brown & Fields, 2011; Ilies, Morgeson, & Nahrgang, 2005; Shamir, et al., 1993). Hence, a highly formalised environment may constrain the positive impact of self-leadership strategies on observed transformational leadership behaviours.

Hypothesis 2a: At low levels of organisational formalisation, the relationship between self-leadership and transformational leadership will be significantly stronger than when formalisation is high.

Furthermore, by virtue of the extensive rules or policies in place in a highly formalised environment, the requirement or need for a leader to engage in transformational behaviours is reduced (Tata & Prasad, 2004). As a result, 'managerial' (transactional) styles of leadership meant to ensure rule-following and achievement of clear performance standards

Self-leadership, leadership styles and employee engagement: Testing moderation models

may be more prevalent in environments with high levels of formalisation. Adherence to rules and policies may encourage managers to engage in self-goal setting and self-correcting feedback, a prerequisite for transactional leadership (Bass & Bass, 2008). Lastly, highly formalised environments may have rules and policies that encourage the setting of goals.

Hypothesis 2b: At low levels of formalisation, the relationship between behaviour-focussed strategies and transactional leadership will be significantly stronger than when formalisation is high.

Towards an Integrated Model: Follower Engagement

The leadership literature has identified many team-level outcomes of leadership, such as job satisfaction, organisational commitment, and turnover intention (e.g. Niehoff, Eng, & Grover, 1990; Walumbwa & Lawler, 1990; Walumbwa, Lawler, Avolio, & Wang, 2003). However, research conjointly examining team-level outcomes of self-leadership and leadership style has yet to be conducted. The present research aims to address this theoretical and empirical gap in the leadership literature.

When evaluating the health, well-being, and productivity of employees, engagement has been identified as a crucial variable to examine (Batista-Taran, Shuck, Gutierrez, & Baralt, 2009). For instance, it has been suggested that employee engagement reflects job satisfaction and organisational commitment (Macey & Schneider, 2008; Wefald & Downey, 2009). Furthermore, engagement has been found to be associated with higher performance at the individual-level and the team-level (Balducci, et al., 2010; Schaufeli & Salanova, 2007), lower absenteeism (Schaufeli, Bakker, & van Rhenen, 2009), lower turnover intentions (Bal, DeCooman, & Mol, 2013), and improved employee wellbeing (Schaufeli & Salanova, 2007). It can be argued that engagement, with its links to many outcomes of interest, may represent an important indicator of workforce functioning (Maslach & Leiter 1997; Maslach, Jackson,

& Leiter, 1996; Maslach, Schaufeli, & Leiter, 2001). Therefore, for the present research, engagement has been identified as an outcome of interest for leadership style.

Schaufeli, Salanova, Gonzalez-Romá, and Bakker (2002) offer a widely accepted definition of engagement as the positive, fulfilling, enduring work-related state of mind that is characterised by vigour, dedication and absorption (p. 74). Vigour refers to high levels of energy and effort invested in task performance, especially in the face of obstacles. Dedication involves being highly involved in one's work and experiencing significance, enthusiasm and challenge. Absorption is characterised by focusing, in a concentrated manner, on work and being engrossed in tasks.

Transformational leadership has been found to contribute to higher follower engagement (Bakker & Demerouti, 2008; Tims, Bakker & Xanthopoulou, 2011; Christian, Garza, & Slaughter, 2011; Karatepe, Beirami, Bouzari, & Safavi, 2014; Rich, LePine, & Crawford, 2010). Transformational leaders foster an inspiring shared vision of the organisation, help direct goal-setting behaviours in followers toward achieving that vision (Ghadi, Fernando, & Caputi, 2013), and provide meaning and purpose for work (Bono & Judge, 2003). As a result, followers may feel more motivated to achieve these goals and experience increased performance (Schaufeli & Salanova, 2007). Transformational leadership has been linked to increased intrinsic motivation in followers (Schaufeli & Salanova, 2007), and follower engagement has also been linked positively to higher levels of intrinsic motivation (Chalofsky & Krishna, 2009). Additionally, followers who have positive interactions and experiences with their organisational leaders, as would be expected with transformational leadership styles, experience higher engagement (Bakker & Schaufeli, 2008). Lastly, transformational leaders are able to impact engagement through meeting the necessary human and work needs of their employees through empowering behaviours

Self-leadership, leadership styles and employee engagement: Testing moderation models

(Nohria, Groysberg, & Lee, 2008). Clearly, there is theoretical and empirical support for a positive association between transformational leadership and follower engagement.

Hypothesis 3a: All dimensions of transformational leadership will be associated positively with follower engagement.

Transactional leaders rely on contingent rewards to encourage high performance (Yukl, 1994). To the extent that these rewards are valued by employees, they will contribute positively to employee engagement (Albrecht, 2010; Attridge, 2009; Bakker & Demerouti, 2008).

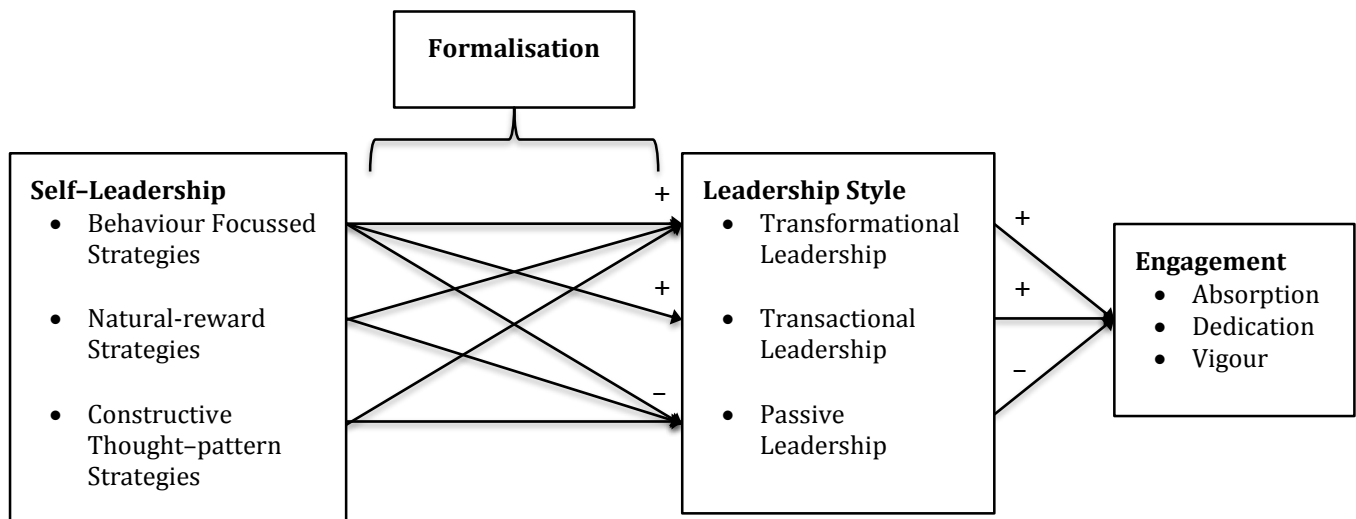
Hypothesis 3b: All dimensions of transactional leadership will be associated positively with follower engagement.

Laissez-faire leaders are characterised as avoidant (Northouse, 2001), and often fail to provide the necessary interpersonal or operational resources to support the fulfilment of work tasks (Bass, 1985; Katz, Maccoby, Gurin, & Floor, 1951). Moreover, laissez-faire leaders, in contrast to transformational leaders, do not provide a common goal or purpose to strive for, and are less likely to motivate followers (Baumgartel, 1957). Thus, employee motivation and job satisfaction are likely to be lower for followers with avoidant leaders, possibly decreasing engagement.

Hypothesis 3c: Passive leadership will be associated negatively with follower engagement.

In summary, the present research seeks to test a moderated model of self-leadership (shown in Figure 1 below). It is postulated that there is a positive association between self-leadership and active leadership styles (transformational and transactional leadership), and formalisation will moderate this relationship. Furthermore, in line with the existing literature, it is hypothesised that active leadership styles are associated positively with follower engagement.

Figure 1. *The expanded self-leadership model.*



Method

Participants and Procedure

Sampling.

The sample was obtained from two New Zealand organisations. Organisation A was a private sector financial institution with retail branches across New Zealand. Organisation B was a large-scale facilities and infrastructure maintenance services-provider in the public sector. For organisation A, the survey was sent to all retail managers and followers. For organisation B, the survey was sent to all managers and followers within the operations division. Given access limitations imposed by both organisations, repeated measurements were not possible. Participation was entirely voluntary. Leaders were defined as those who held formal management titles, had at least one direct report, and had held their current positions for at least six months to allow sufficient time for meaningful patterns of leadership style to develop for followers to rate. Followers were the direct reports of their respective manager or team leader.

Self-leadership, leadership styles and employee engagement: Testing moderation models

Sample.

In total, 326 surveys links were sent, of which 129 (39.57%) surveys were returned and 103 (31.29%) (30 leaders and 73 followers) were completed fully. The participant demographics are shown in Table 1 below.

Table 1. *Demographics for the effective sample from organisations A and B*

	<i>Organisation A</i>			<i>Organisation B</i>		
	<i>Leader</i>	<i>Follower</i>	<i>Total</i>	<i>Leader</i>	<i>Follower</i>	<i>Total</i>
n	13	40	53	17	33	50
Gender (%)						
Male	8 (61.53%)	8 (20.00%)	16 (30.19%)	14 (82.35%)	21 (63.64%)	35 (70.00%)
Female	5 (38.46%)	32 (80.00%)	37 (69.81%)	3 (17.65%)	12 (36.36%)	15 (30.00%)
Other	0	0	0	0	0	0
Mean Age (SD)	43.77 (8.14)	43.80 (11.62)	43.79 (10.71)	44.41 (9.23)	47.52 (9.51)	46.37 (9.43)
Mean Managerial Experience (SD)	15.04 (7.89)	–	–	14.18 (10.75)	–	–

Procedure.

The survey was hosted online using the University of Canterbury Qualtrics survey portal (Qualtrics, 2014). Invitations (see Appendix A) were sent to participants via email.

Invitations contained information on the purpose of the study and a hyperlink to the survey.

Upon opening the survey, participants were given a brief description of the survey's purpose, information regarding participant anonymity, planned uses of the data, contact details for questions or comments, and the consent form for participation (see Appendix B and C).

Participants were informed that, by submitting their responses to the survey, they were giving their informed consent to participate. Details of incentives were also given at this stage.

Incentives for participation were in the form of three vouchers (to the value of \$50NZD each), raffled among participants who completed the survey in its entirety. Participants were notified that the survey portal would remain open for two and a half weeks (17 days).

The order of the scales, and items within them, was randomised across participants to mitigate order effects and common method variance (CMV) effects (Chang, Witteloostuijn,

Self-leadership, leadership styles and employee engagement: Testing moderation models

Eden, 2010). Additionally, an effort was made to distinguish individual scales using separate pages and colours to reduce CMV effects (Spector, 2006). Should an item be left blank, participants were requested (but not forced) to provide a response. For each scale, an open-ended comment section was provided for participants to elaborate on their responses to that scale. At the end of the survey there was an opportunity to provide general feedback. Two reminder emails were sent at weekly intervals. Participants were asked to complete the questionnaire in their place of employment during work time and this was endorsed by the participating organisations.

Leaders were asked to rate their self-leadership. Although a leader-rated form of the Multifactor Leadership Questionnaire (MLQ) exists, leaders did not self-rate their leadership style, thereby mitigating CMV effects (Furtner, et al., 2013; Podsakoff, MacKenzie, Lee, & Podsakoff, 2003). Followers were asked to rate their leader's leadership style, their engagement at work, and the degree of formalisation in their organisation. See Appendix D for an example of the formatting used for the instrument.

Measures

Self-leadership.

Self-leadership was measured, by leaders, using the Abbreviated Self-leadership Questionnaire (ASLQ) (Houghton, Dawley, & DeLiello (2012). The ALSQ is a shortened version of the Revised Self-Leadership Questionnaire (RSLQ) (Houghton & Neck, 2002). The ASLQ uses nine items to self-rate self-leadership styles across three dimensions using a 5-point Likert-type response scale format (1 = “strongly disagree” to 5 = “strongly agree”). The three dimensions were as follows: behaviour awareness and volition (e.g. “I establish specific goals for my own performance”), natural-rewards strategies (e.g. “I visualise myself successfully performing a task before I do it”), and constructive thought-pattern strategies (e.g. “Sometimes I talk to myself (out loud or in my head) to work through difficult

situations”). The scoring for the three dimensions was derived by computing the means of their respective items (three items each).

Houghton et al., (2012) claim that, for a general measure of self-leadership¹ and where it is not practicable to administer the full 35-item RSLQ², the ASLQ should be used. Furthermore, they argue that the ASLQ better reflects the recent scholarship on self-leadership dimensions (e.g. Georgianna, 2007; Neck & Houghton, 2006). Previous research obtained a Cronbach alpha of .73 for the ASLQ (Houghton et al, 2012), which is higher than the .70 acceptable reliability threshold established in the literature (Nunnally, 1978; Nunnally & Bernstein, 1994).

Leadership Style.

Leadership style was rated by followers using the third edition of the Multifactor Leadership Questionnaire (MLQ 5x Short Form) (Bass & Avolio, 2004). The MLQ 5x Short Form uses 36 items to rate leaders leadership styles across nine dimensions using a frequency-based 5-point Likert-type response scale format (from 1 = “never” to 5 = “very often, almost always”). The nine dimensions were as follows: idealised attribute (e.g., “The person I am rating instills pride in me for being associated with him/her”), idealised behaviour (e.g., “The person I am rating talks about their most important values and beliefs”), inspirational motivation (e.g., “The person I am rating talks optimistically about the future”), intellectual stimulation (e.g., “The person I am rating seeks differing perspectives when solving problems”), and individualised consideration (e.g., “The person I am rating spends time teaching and coaching”) form transformational leadership; and contingent reward (e.g., “The person I am rating provides me with assistance in exchange for my efforts”), active MBE

¹ Previous research by Furtner et al (2013) examined the link between self-leadership and leadership style using the German translation of the 35-item RSLQ (see Andressen & Konradt, 2007). The present research’s focus was not upon the specific facets of self-leadership. Thus, the ASLQ was deemed appropriate.

² The organisations involved in the research stipulated that the survey should not exceed 15 minutes of time commitment per employee. Houghton, et al. (2012) specifically made mention that a major criticism of the RSLQ was that it was unwieldy in applied settings and could result in a lower response rate and lack of buy-in from organisations.

Self-leadership, leadership styles and employee engagement: Testing moderation models

(e.g., “The person I am rating focuses attention on irregularities, mistakes, exceptions, and deviations from standards”), and passive MBE (e.g., “The person I am rating fails to interfere until problems become serious”) form transactional leadership. Lastly, laissez-faire leadership (e.g., “The person I am rating avoids getting involved when important issues arise”) was also measured. The scoring for the nine leadership dimensions was derived by computing the means of their respective items (four items each).

The MLQ 5x Short Form was first developed by Bass and Avolio (1995) to measure the full range leadership model of transformational, transactional, and laissez-faire leadership styles, and has demonstrated validity across a broad range of contexts (Bass & Avolio, 1999; 2004; Berson, 1999). Previous uses of the MLQ 5x Short Form found Cronbach alpha coefficients to vary between .63 and .92, with the majority greater than .80 (see Bass & Avolio, 1990; 2004), indicating good internal consistency.

Formalisation.

Formalisation was rated by followers using the formalisation subscale in the Organisation Climate Measure (OCM) (Patterson, et al (2005). The OCM was developed by Patterson, et al. (2005) and is based upon Quinn and Rohrbaugh’s (1981) Competing Values model. The literature typically conceptualises formalisation as a unidimensional construct (Hall, 1991; Naughton & Outcalt, 1988; Patterson et al, 2005; Pugh, Hickson, Hinings, & Turner, 1968). Participants rated responses to five statements using a 5-point Likert-type response scale format (from 1 = “definitely false” to 5 = “definitely true”). Example items include: “It is considered extremely important here to follow the rules” and “People can ignore formal procedures and rules if it helps get the job done.” The scoring for the scale was the mean of the five items.

Previous Cronbach alphas for the formalisation subscale of the OCM tend to indicate acceptable to good internal consistency (all $\alpha > .77$) (Patterson, et al., 2005). Patterson, et al.,

(2005) claim that the generalisability, divergent validity, and inter-rater reliability were all satisfactory, with the intra-class correlation being .93, which indicates excellent scale homogeneity (Bliese, 2000). Furthermore, the within-group agreement index for formalisation was found to be .81, where .70 has been suggested as the appropriate cut-off (James, 1982; James, Demaree, & Wolf, 1984; 1993).

Engagement.

Engagement was rated by followers using the shortened Utrecht Work Engagement Scale (UWES-9) (Schaufeli & Bakker, 2003; Schaufeli, Bakker, & Salanova, 2006). The UWES was first developed by Schaufeli and Bakker (2003) to measure employee engagement across a range of employment settings. Schaufeli, Bakker, and Salanova (2006) proposed a shortened version of the original 17-item UWES, developing the 9-item UWES-9 for use in applied research. The UWES-9 uses nine items to rate employee engagement across three dimensions using a 5-point Likert-type response scale format (from 1 = “never” to 5 = “always/everyday”). The three dimensions were as follows: absorption (AB) (e.g. “time flies when I’m working”), vigour (VI) (e.g. “When I get up in the morning, I feel like going to work”), and dedication (DE) (e.g. “I am enthusiastic about my job”). The scoring for the three dimensions was achieved by computing the mean of their respective items (three for absorption, three for vigour, and three items for dedication).

The reliability of the UWES-9 is comparable to the original UWES. The authors report Cronbach alphas greater than .80 for all 10 translations of the UWES-9. Using Australian and Norwegian samples, the UWES-9 also showed 1-year stability coefficients of .64 and .73, respectively, with all dimensions producing stability coefficients higher than .60 (Schaufeli, Bakker, & Salanova, 2006). Schaufeli and Bakker (2003) and Schaufeli et al., (2006) claim that the UWES-9 has good construct validity, and recommend the scale’s use for the measurement of engagement.

Self-leadership, leadership styles and employee engagement: Testing moderation models

See Appendix E for the full scales, including their items and response anchors.

Statistical Analyses

Data from followers (level 1) were matched to their respective leaders (level 2) to create a nested data structure at this stage. Items requiring reverse coding were so treated.

Exploratory factor analyses (using principal axis factoring and direct oblimin rotation, $\delta = 0$) were run to establish the dimensionality of the measures within a New Zealand sample, as previous validation exercises were predominantly conducted using North American and European samples. Separate EFAs were run for organisations A and B to determine whether it was appropriate to combine data from both organisations for the subsequent analyses, to improve statistical power. If comparable dimension structures were found on a scale between organisations, this would indicate a comparable theoretical understandings of the construct across the organisations. Scales were then scored, using their respective scoring procedures (see ‘Measures’ above), index variables created, and variables centred using grand mean centring (Hofmann & Gavin, 1998).

Bivariate Pearson zero-order correlation coefficients were computed to obtain a general picture of linear relationships among variables. In addition, general descriptive statistics and Cronbach alphas were calculated. Levels of interrater agreement (IRA) within work-teams and intraclass correlations (ICC) and were also determined to see: a) whether it was appropriate to aggregate at the team level; and b) whether one’s work team and organisation were important contextual variables for each outcome (Biemann, Cole, & Voelpel, 2012; Bliese, 2000; Hofmann, Griffin, & Gavin, 2000; LeBreton & Senter, 2008; Woehr, Loughry, Schmidt, Loughry, & Ohland, 2015).

Means-as-outcomes regressions in multilevel modelling (MLM) were then employed to ascertain the predictive qualities of self-leadership (Level 2) on leadership style (Level 1) in nested data, and to examine the moderating effects of formalisation (Levels 1 and 2).

Self-leadership, leadership styles and employee engagement: Testing moderation models

Multilevel models allow for the investigation of relationships between variables that vary at more than one level (Raudenbush & Bryk, 2002). Followers' ratings of leadership style (Y_{ij}) served as dependent variables at the individual-level (Level 1 outcomes) and leaders' self-ratings of self-leadership (Z_j) as the independent variables at the group-level (Level 2 predictors). Finally, MLM was employed to examine the relationship between a leader's leadership style and follower engagement. Gender, managerial experience, and organisational membership were controlled for, to isolate the incremental variance that self-leadership explains in follower-rated leadership styles.

Data were handled and screened in Microsoft Excel 2010 (Microsoft Corporation, 2010), and all statistical analyses were conducted using SPSS Version 22.0 (IBM Corp., 2013).

Results

Preliminary Analyses

Dimension structures.

Initial data screening identified missing data at the respondent, scale, and item levels. Participants with missing data were deleted listwise prior to any further treatment of the data. Results for the initial exploratory factor analyses verified comparable dimension structures on the ASLQ, UWES-9, and OCM between the samples obtained from each organisation, indicating that combining the data for subsequent analyses was appropriate. Subsequent analyses would then control for the effects of organisational membership by adding it as a random intercept (level 3).

Exploratory factor analyses were re-run using the combined sample ($n_{A+B} = 103$). For self-leadership (ASLQ), the expected three-factor structure was supported (see Table A in Appendix F: behaviour-focussed strategies = factor 1; natural-reward strategies = factor 2; and constructive thought-pattern strategies = factor 3). A factor analysis of the MLQ 5x

Self-leadership, leadership styles and employee engagement: Testing moderation models

Short-Form was not appropriate given the small sample-size-to-item ratio.³ However, extensive validation of the MLQ 5x Short-Form has consistently supported a nine-factor structure (e.g. Bass & Avolio, 1993; 1994). Thus, the nine dimension conceptualisation of leadership style was adopted. The expected unidimensional factor structure for formalisation was found (refer to Table B in Appendix G). Finally, a single factor structure for engagement was established (Table C in Appendix H), suggesting the UWES-9 provided a global measure of engagement. As part of the factor analytic process, items that demonstrated poor measurement properties (i.e. had factor loadings less than .40 and communalities less than .40; Costello & Osborne, 2005) were identified and removed from further analyses. Referring to Appendix E the following items were removed from the ASLQ: 1, 6, and 7.

Next, index variables were created for each dimension of each scale by calculating the means of those items loading on the respective dimensions. From the index variables, centred variables were created using grand mean centring, as recommended by Hofmann and Gavin (1998). Centring variables using the grand mean dealt with scaling issues between levels of data (Bryk & Raudenbush, 1992), thereby improving the interpretability of model intercepts.

Descriptive statistics.

Bivariate zero-order correlations and general descriptive statistics are presented in Table 2 on page 34. Correlations between leader and follower-rated variables were computed by nesting leader ratings for self-leadership with respective follower ratings of leadership style, formalisation, and engagement. Together, the means and standard deviations indicate that there is a sufficient degree of variability in responses for the majority of scales, and an inspection of the range for each item suggest range restriction is not an issue. The majority of Cronbach alpha values ranged from good ($\alpha > .70$) to excellent ($\alpha > .90$) (Nunnally & Bernstein, 1994). However, *active MBE* and *passive MBE* had poor Cronbach Alpha values

³ There were 36 items in the MLQ 5x Short-Form and 76 raters. As a guideline, Nunnally (1978) recommends a minimum sample size of 300 in order to conduct an EFA for a scale with ~30 items.

Self-leadership, leadership styles and employee engagement: Testing moderation models

($\alpha = .58$ and $.66$, respectively). Significant correlations among gender, managerial experience, natural-reward strategies, and constructive thought–pattern strategies, indicated that gender and managerial experience should be controlled for when examining the hypotheses.

The levels of Interrater agreement (IRA) within work teams are presented in Table 3 on page 35. For the MLQ 5x Short-Form, IRA ranged from $r_{WG} = .65$ to $.79$, for formalisation $r_{WG} = .64$, and $r_{WG} = .72$ for engagement (James, Demaree & Wolf, 1984; recommended a practical cut-off of $r_{WG} > .70$). Overall, the results suggest that there was moderate IRA within work teams for each scale, and therefore, it was deemed appropriate to aggregate individual ratings to the team level.

An initial MLM (model 0) was run, containing no predictors or fixed-effects, in order to determine the intraclass correlation coefficients (ICC(1)) between team and organisation with each variable. The results are presented in Table 4 on page 35. The ICC(1) is the proportion of variance of individual responses that can be attributed to group membership. For all dimensions of *transformational leadership* the ICC(1)s exceeded $.05$ for team and organisation. That is, the variability within teams was less than the variability between teams, and the variability within an organisation was less than the variability between organisations. Stated differently, team and organisational membership each accounted for more than 5% of the variance in each dimension of transformational leadership (Hayes, 2006, recommends a cut-off of $.05$ for ICC(1)). The ICCs for *active MBE* suggested that neither team ($ICC(1) = .02$) nor organisational membership ($ICC(1) = .00$) were important contextual variables on the outcome. Organisational membership was an important contextual variable for *contingent reward*, as it explained 34% of the variance in contingent reward ($ICC(1) = .34$) while team membership explained less than 5% of the variance in contingent reward ($ICC(1) = .03$). The ICCs indicated that team membership was an important contextual variable for *passive MBE*

Self-leadership, leadership styles and employee engagement: Testing moderation models

($ICC(1) = .16$) and *laissez-faire leadership* ($ICC(1) = .16$). However, organisational membership was not (all $ICC(1)s < .03$). Finally, the $ICC(1)s$ suggest that organisational membership was not an important contextual variable on follower *engagement*, with organisational membership accounting for 1% of the variance in follower engagement ($ICC(1) = .01$). $ICCs$ for the team level for engagement were redundant as all data originated from the same level. In general, the $ICC(1)s$ indicate that multilevel modelling was appropriate for analysing the results.

Self-leadership, leadership styles and employee engagement: Testing moderation models

Table 2. *Correlations, means, standard deviations, and Cronbach Alphas.*

	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	M	SD	α
1 MgmtExp	1.00	-.17	.15	.24*	.20*	-.05	-.05	.03	-.09	-.07	-.10	-.07	-.17	-.14	-.08	.10	14.55	9.47	–
2 Gender (Female)		1.00	.17	-.08	-.32**	.07	.13	.00	.11	.09	-.16	.08	.04	.10	.04	-.08	–	–	–
Self Leadership																			
3 Behaviour–focussed Strategies			1.00	-.15	.22	.36**	.39*	.36**	.32**	.37**	.10	.36**	-.10	-.24*	.29*	.19	4.37	.54	.71
4 Natural–reward Strategies				1.00	.07	-.29*	-.29*	-.17	-.26*	-.26*	-.03	-.29*	.08	.18	-.07	-.12	3.82	.89	.75
5 Constructive Thought–Pattern Strategies					1.00	.00	-.16	.02	-.17	-.06	.13	-.21	-.09	-.02	-.17	-.06	4.04	.73	.76
Transformational Leadership																			
6 Intellectual Stimulation						1.00	.77**	.76**	.73**	.86**	.16	.77**	-.34**	-.60**	.31*	.45**	3.58	.79	.72
7 Idealised Influence Behaviour							1.00	.83**	.84**	.84**	.29*	.84**	-.32**	-.64**	.39	.49**	3.67	.96	.85
8 Idealised Influence Attribute								1.00	.86**	.85**	.23	.74**	-.32**	-.70**	.30*	.55**	3.55	1.11	.90
9 Inspirational Motivation									1.00	.81**	.22	.77**	-.29**	-.58**	.34	.58**	3.94	.94	.89
10 Individualised Consideration										1.00	.23	.83**	-.42**	-.72**	.36	.43**	3.44	.96	.80
Transactional Leadership																			
11 Active MBE											1.00	.33**	-.24*	-.11	.17	.08	3.03	.79	.58
12 Contingent Rewards												1.00	-.44**	-.63**	.52**	.43**	3.76	.96	.82
Passive Leadership																			
13 Passive MBE													1.00	.63**	-.30*	-.05	2.24	.82	.66
14 Laissez–faire Leadership														1.00	-.35**	-.21	1.95	.99	.85
15 Formalisation															1.00	.19	3.99	.88	.82
16 Engagement																1.00	3.7	.73	.91

N = 103; 30 leaders, 73 followers. *MgmtExp* = managerial experience (years), *MBE* = Management-By-Exception. ** $p < .01$, * $p < .05$

Self-leadership, leadership styles and employee engagement: Testing moderation models

Table 3. Interrater agreement for follower ratings.

<i>Scale</i>	<i>r_{WG}</i>
Leadership Style	
Transformational Leadership	
Intellectual Stimulation	.79
Idealised Influence Behaviour	.71
Idealised Influence Attribute	.67
Inspirational Motivation	.69
Individualised Consideration	.69
Transactional Leadership	
Active MBE	.72
Contingent Reward	.73
Passive Leadership	
Passive MBE	.72
Laissez-faire Leadership	.65
Formalisation	.64
Engagement	.72

n_{groups} = 20, n = 73 followers; r_{WG} = mean interrater agreement

Table 4. Intraclass correlation coefficients.

<i>Scale</i>	<i>ICC(1)</i> <i>Team</i>	<i>ICC(1)</i> <i>Organisation Membership</i>
Leadership Style		
Transformational Leadership		
Intellectual Stimulation	.16	.07
Idealised Influence Behaviour	.19	.17
Idealised Influence Attribute	.23	.07
Inspirational Motivation	.16	.12
Individualised Consideration	.09	.13
Transactional Leadership		
Active MBE	.02	.00
Contingent Reward	.03	.34
Passive Leadership		
Passive MBE	.16	.03
Laissez-faire Leadership	.16	.00
Engagement	—	.01

n_{groups} = 20, n = 73 followers; ICC(1) = intraclass correlation coefficient

Testing the Research Hypotheses

The relationship between a leaders' self-leadership and followers' perceptions of transformational leadership (hypotheses 1a-c), and the moderating effects of formalisation (hypothesis 2a).

Leader ratings of their self-leadership abilities (level 2) were used to predict follower perceptions of their transformational leadership (level 1) with formalisation as a moderator using Multilevel Modelling (MLM). This set-up echoed the research hypotheses, 1a-c, that a leader's self-leadership would be associated with transformational leadership and that formalisation would moderate this relationship (hypothesis 2a). An initial main effects model (model 1) was run with predictors and, next, fixed effects and interaction terms were added (model 2) to determine the moderating effects of formalisation. The results of the analyses are summarised in Table 5.

Overall, a leader's *behaviour focussed strategies*, *natural-reward strategies*, and an organisation's *formalisation* were found to be associated significantly with followers' perceptions of several facets of transformational leadership. There were no significant moderating effects of formalisation. The relative model fit was assessed using Akaike's Information Criterion (AIC), as recommended by Verbeke and Molenberghs (2000).⁴ The AICs indicate that the fixed effects models (model 1) were better models than the fixed models with interaction terms added (model 2). Thus, it may be inferred that the addition of formalisation as a moderator did not improve the model.

Inspecting the unstandardised regression coefficients in Table 5 for the best-fit model, the results supported *hypothesis 1a*. Behaviour-focussed strategies were associated positively and significantly with intellectual stimulation ($\gamma = .41, p < .05$), idealised influence behaviour ($\gamma = .55, p < .05$), and individual consideration ($\gamma = .54, p < .05$). *Hypothesis 1b*

⁴ Akaike's Information Criterion is presented in a smaller-is-better form and is based upon the log likelihood of a model (see Akaike, 1973).

Self-leadership, leadership styles and employee engagement: Testing moderation models

was not supported, as a leader's natural-reward strategies was found to be associated negatively and significantly with follower perceptions of a leader's intellectual stimulation ($\gamma = -.19, p < .05$), in contrast to the predicted positive relationship. *Hypothesis 1c* was not supported, with constructive thought-pattern strategies showing non-significant relationships with transformational leadership dimensions (all γ s $< -.30$, all $ps = \text{n.s.}$). *Hypothesis 2a* was not supported as formalisation did not significantly moderate the relationship between self-leadership and transformational leadership dimensions (all γ s $< .32$, all $ps = \text{n.s.}$). Interestingly, however, there was a significant main effect between formalisation and idealised influence behaviour ($\gamma = .26, p < .05$), and formalisation and individualised consideration ($\gamma = .26, p < .05$). Lastly, organisational membership (level 3) was not a significant predictor of transformational leadership (all γ s $< .15, p > .05$).

Self-leadership, leadership styles and employee engagement: Testing moderation models

Table 5. Multilevel models (means-as-outcomes regressions) with leaders self-leadership (level 2 predictor) and transformational leadership (level 1 outcome).

Scales	Intellectual Stimulation		Idealised Influence Behaviour		Idealised Influence Attribute		Inspirational Motivation		Individual Consideration	
	Model 1	Model 2	Model 1	Model 2	Model 1	Model 2	Model 1	Model 2	Model 1	Model 2
	γ (SE)	γ (SE)	γ (SE)	γ (SE)	γ (SE)	γ (SE)	γ (SE)	γ (SE)	γ (SE)	γ (SE)
Intercept	3.51 (.18)***	3.47 (.19)***	3.66 (.23)***	3.58 (.23)***	3.41 (.30)***	3.31 (.31)***	3.93 (.23)***	3.80 (.23)***	3.43 (.22)***	3.42 (.23)***
<i>Fixed Effects (Main Effects)</i>										
Self Leadership										
Behaviour-focussed Strategies	.41 (.18)*	.41 (.18)*	.55 (.23)*	.58 (.22)*	.55 (.30)^o	.60 (.30)^o	.45 (.23)^o	.52 (.22)*	.54 (.22)*	.51 (.22)*
Natural-reward strategies	-.19 (.10)*	-.19 (.10)^o	-.22 (.13)^o	-.23 (.12)^o	-.16 (.18)	-.16 (.17)	-.19 (.13)	-.21 (.12)^o	-.18 (.12)	-.20 (.12)^o
Constructive thought-pattern strategies	-.08 (.13)	-.06 (.13)	-.24 (.17)	-.25 (.17)	-.08 (.23)	-.09 (.22)	-.27 (.17)	-.30 (.16)^o	-.12 (.16)	-.10 (.16)
Managerial Experience	.00 (.01)	.01 (.01)	-.00 (.01)	-.00 (.01)	.00 (.02)	.00 (.02)	-.00 (.01)	-.00 (.01)	-.00 (.01)	-.00 (.01)
Gender (Female)	.07 (.19)	.07 (.19)	.07 (.21)	.12 (.22)	.32 (.26)	.37 (.27)	.12 (.22)	.20 (.23)	.06 (.23)	.07 (.24)
Formalisation	.17 (.10)^o	.15 (.10)	.26 (.12)*	.28 (.12)*	.23 (.14)^o	.24 (.15)^o	.22 (.12)^o	.23 (.12)^o	.26 (.12)*	.26 (.12)*
<i>Fixed Effects (Interaction Effects)</i>										
Formalisation*Behaviour-focussed Strategies	–	-.02 (.18)	–	.20 (.22)	–	.24 (.27)	–	.32 (.22)	–	.02 (.22)
Formalisation*Natural-reward strategies	–	.05 (.11)	–	.04 (.12)	–	.01 (.15)	–	.03 (.12)	–	.13 (.13)
Formalisation*Constructive thought-pattern strategies	–	.18 (.15)	–	-.07 (.18)	–	.04 (.22)	–	-.07 (.18)	–	-.02 (.19)
<i>Assessment of Model Fit</i>										
	AIC		AIC		AIC		AIC		AIC	
Akaike's Information Criterion	157.71	161.83	182.82	206.84	207.07	212.01	180.77	185.05	183.86	188.76
<i>Variance Components (Random Effects)</i>										
	Intellectual Stimulation		Idealised Influence Behaviour		Idealised Influence Attribute		Inspirational Motivation		Individual Consideration	
Individual (Residual, Level 1)	.47*		.56***		.85***		.62***		.71***	
Team (Intercept, Level 2)	0.10		0.17		0.27		0.14		0.08	
Organisational Membership (Intercept, Level 3)	0.04		0.15		0.08		0.10		0.12	

$n = 30$ leaders, $n = 72$ followers. *** $p < .001$, ** $p < .01$, * $p < .05$, ^o $p < .10$; values $p < .10$ are highlighted in bold to improve visibility

Model 1 = Main effects, Model 2 = Interaction Effects & Main Effects, γ = unstandardised regression coefficient, AIC = Akaike's Information Criterion, SE = Standard Error

Self-leadership, leadership styles and employee engagement: Testing moderation models

The relationship between a leaders' self-leadership and followers' perceptions of transactional leadership (hypothesis 1d), and the moderating effects of formalisation (hypothesis 2b).

Leader ratings of their behaviour-focussed strategies (level 2) were used to predict follower perceptions of leaders' transactional leadership (level 1) with formalisation as a moderator using MLM. This tested the research hypotheses (1d) that there would be a relationship between a leader's behaviour focussed strategies and transactional leadership, and that formalisation would moderate this relationship (hypothesis 2b). Similarly, an initial model examining main effects (model 1) was tested, with interaction effects added (model 2). The results of these models are presented in Table 6.

Generally, a leader's self-rated behaviour-focussed strategies were not associated with followers' perceptions of their transactional leadership, and formalisation was not a significant moderator of this relationship. Instead, *formalisation* was associated significantly with *contingent reward*. Reviewing the AICs, revealed that main effects models, for both *active MBE* and *contingent reward*, produced better fitting models than the main effects models with interaction terms added. Hence, the addition of formalisation as a moderator did not improve the model.

Examining the regression coefficients in Table 6 for the best-fit models, the results did not support *hypothesis 1d*; a leader's behaviour-focussed strategies were not associated significantly with followers' ratings of leaders' active MBE ($\gamma = .15, p = \text{n.s.}$) nor contingent reward ($\gamma = .18, p = \text{n.s.}$). Additionally, *hypothesis 2b* was not supported; formalisation did not moderate the relationship between a leader's behaviour-focussed strategies and perceptions of their transactional leadership (all γ s < .14, all p s = n.s.).

Self-leadership, leadership styles and employee engagement: Testing moderation models

Table 6. *Multilevel models (means-as-outcomes regressions) with leaders self-leadership (level 2 predictor) and transactional leadership (level 1 outcome).*

<i>Scales</i>	<i>Active MBE</i>		<i>Contingent Reward</i>	
	<i>Model 1</i>	<i>Model 2</i>	<i>Model 1</i>	<i>Model 2</i>
	<i>γ (SE)</i>	<i>γ (SE)</i>	<i>γ (SE)</i>	<i>γ (SE)</i>
Intercept	3.03 (.19)***	2.98 (.19)***	3.71 (.38)**	3.72 (.39)**
<i>Fixed Effects (Main Effects)</i>				
Self Leadership				
Behaviour–focussed Strategies	.15 (.19)	.18 (.18)	.18 (.20)	.17 (.20)
Managerial Experience	–.01 (.01)	–.01 (.01)	–.01 (0.01)	–.01 (.01)
Gender (Female)	.34 (.19)	.38 (.20)°	.35 (.19)°	.34 (.20)°
Formalisation	.12 (.11)	.12 (.11)	.28 (.11)*	.28 (.11)**
<i>Fixed Effects (Interaction Effects)</i>				
Formalisation*Behaviour–focussed Strategies	–	.14 (.19)	–	–.04 (.18)
<i>Assessment of Model Fit</i>				
	<i>AIC</i>		<i>AIC</i>	
Akaike’s Information Criterion	167.31	168.75	164.57	166.53
<i>Variance Components (Random Effects)</i>				
	<i>Active MBE</i>		<i>Contingent Reward</i>	
Individual (Residual, Level 1)	.59***		.56***	
Team (Intercept, Level 2)	.02		.03	
Organisational Membership (Intercept, Level 3)	.00		.31	

n = 30 leaders, *n* = 72 followers. *** *p* < .001, ** *p* < .01, * *p* < .05, ° *p* < .10; values *p* < .10 are highlighted in bold to improve visibility

Model 1 = Main effects, Model 2 = Main Effects & Interaction Effects, *γ* = unstandardised regression coefficient, AIC = Akaike’s Information Criterion

The relationship between self-leadership and passive leadership (hypotheses 1e-g).

Leader ratings of their self-leadership abilities (level 2) were used to predict follower perceptions of a leader’s laissez-faire leadership (level 1) using MLM, to test the research hypotheses (1e-g) that a leader’s self-leadership would be associated negatively with laissez-faire leadership. A model (model 1) was run to determine the main effects of self-leadership, managerial experience, and gender as predictors of passive leadership. The results of the MLMs are outlined in Table 7.

There was no significant relationship between *Self-leadership* and either dimension of passive leadership. Therefore, *hypotheses 1e, f, and g* were not supported by the results; leaders’ self-ratings of their self-leadership were not found to be associated significantly

Self-leadership, leadership styles and employee engagement: Testing moderation models

with follower perceptions of their passive MBE (all γ s < .14, all p s = n.s.) or laissez-faire leadership (all γ s < -.38, all p s = n.s.).

Table 7. Multilevel models (means-as-outcomes regressions) with leaders self-leadership (level 2 predictor) and passive leadership (level 1 outcome).

Scales	Passive MBE	Laissez-faire Leadership
	Model 1	Model 1
	γ (SE)	γ (SE)
Intercept	2.55 (.23)***	2.38 (.26)***
<i>Fixed Effects (Main Effects)</i>		
Self Leadership		
Behaviour-focussed Strategies	-.02 (.22)	-.38 (.26)
Natural-reward Strategies	.14 (.13)	.23 (.15)
Constructive Thought-pattern Strategies	-.05 (.17)	.14 (.19)
Managerial Experience	-.02 (.01)	-.02 (.02)
Gender (Female)	-.10 (.21)	-.41 (.24)^o
<i>Variance Components (Random Effects)</i>		
Individual (Residual, Level 1)	.56***	.81**
Team (Intercept, Level 2)	.11	.14
Organisational Membership (Intercept, Level 3)	.00	.03

n = 30 leaders, *n* = 72 followers. *** p < .001, ** p < .01, * p < .05, ^o p < .10; values p < .10 are highlighted in bold to improve visibility

Model 1 = Main effects, γ = unstandardised regression coefficient

Follower engagement as an outcome of leadership style (hypotheses 3a-c).

Follower ratings of their leader's leadership style (level 1) were used to predict their engagement at work within nested data (also level 1) using MLM, reflecting the research hypotheses that there would be a significant relationship between a leader's leadership style and their followers' engagement. The results of the MLM are summarised in Table 8.

The results suggested that there was a relationship between *Follower Engagement* and *Idealised Influence Attribute*, *Inspirational Motivation*, *Laissez-faire leadership*, and gender. Examining the unstandardised regression coefficients in Table 8, the results partially support *hypothesis 3a*; a leader's idealised influence attribute was associated positively and significantly with follower engagement ($\gamma = .28, p < .05$), as was a leader's inspirational

Self-leadership, leadership styles and employee engagement: Testing moderation models

motivation with follower engagement ($\gamma = .35, p < .05$). *Hypothesis 3b* was not supported, with a not significant relationship discovered between active MBE and follower engagement ($\gamma = -.11, p = \text{n.s.}$), and contingent reward and follower engagement ($\gamma = -.10, p = \text{n.s.}$). Finally, *hypothesis 3c* was partially supported; a leader's laissez-faire leadership was found to be associated negatively with their followers' engagement ($\gamma = -.32, p < .01$). However, a leader's passive MBE was not associated significantly with their followers' engagement ($\gamma = -.03, p = \text{n.s.}$).

Table 8. *Multilevel models (means-as-outcomes regressions) with leadership style (level 1 predictor) and follower engagement (level 1 outcome).*

Scales	Engagement
	Model 1 γ (SE)
Intercept	3.44 (.14)***
<i>Fixed Effects (Main Effects)</i>	
Transformational Leadership	
Intellectual Stimulation	.12 (.18)
Idealised Influence Behaviour	.05 (.17)
Idealised Influence Attribute	.28 (.15)*
Inspirational Motivation	.35 (.16)*
Individualised Consideration	.17 (.19)
Transactional Leadership	
Active MBE	-.11 (.10)
Contingent Reward	-.10 (.15)
Laissez-faire Leadership	
Passive MBE	-.03 (.11)
Laissez-faire Leadership	-.32 (.12)**
Managerial Experience	.01 (.00)
Gender (Female)	.25 (.15)^o
<i>Variance Components (Random Effects)</i>	
Individual (Residual, Level 1)	.51
Team (Intercept, Level 2)	–
Organisational Membership (Intercept, Level 3)	.01

n = 30 leaders, *n* = 72 followers. *** $p < .001$, ** $p < .01$, * $p < .05$, ^o $p < .10$; values $p < .10$ are highlighted in bold to improve visibility

Model 1 = Main effects, γ = unstandardised regression coefficient

The results are summarised in Table D in Appendix I. The table outlines the evidence for or against each hypothesis.

Discussion

General Discussion

Overall, the results indicate that there is a link between a leader's self-leadership and their leadership behaviours. Specifically, a leader's behaviour-focussed strategies are associated positively with transformational leadership, in line with Furtner et al.'s (2013) findings. A leader's behaviour-focussed strategies underpin their self-regulatory processes (Ashford & Tsui, 1991; Day, 2000; Tsui & Ashford, 1994). Self-regulatory processes are critical for forming and executing effective leadership behaviours, such as goal-setting for followers, stimulating followers' interest and engagement (Bass & Bass, 2008; Neck & Houghton, 2006; Tekleab, Sims, Yun, Tesluk, & Cox, 2008), eliminating maladaptive leader behaviours (Bass & Bass, 2008; Neck & Houghton, 2006), and expressing care and empathy for followers (Avolio & Bass, 1999; Bass, 1985; Bass & Avolio, 1995). In short, a good self-regulator attends to and integrates their self-feedback to improve their behaviour in order to become a more effective leader (Bennis & Nanus, 1985).

In contrast to the positive relationship proposed, a leader's natural-reward strategies and constructive thought-pattern strategies were both associated negatively with transformational leadership, although only the relationships between natural-reward strategies and transformational leadership reached significance. The unforeseen negative relationships may be due to socially desirable responding by leaders. Items for natural-reward strategies (e.g. "Sometimes I picture in my mind a successful performance before I actually do a task") and constructive thought-pattern strategies (e.g. "Sometimes I talk to myself, out loud or in my head, to work through difficult situations" or "I try to mentally evaluate the accuracy of my own beliefs about situations I am having problems with") may have been open to a range of interpretations by leaders and could have been construed as weaknesses (e.g. self-doubt), resulting in socially desirable responding and inflated responses. Importantly, several

Self-leadership, leadership styles and employee engagement: Testing moderation models

authors note that natural-reward strategies, as a construct, translate poorly into measurement scales (Anderson & Prussia, 1997; Houghton & Neck, 2002; Houghton, et al., 2012). The need for improved measurement of self-leadership is discussed below.

Formalisation was associated positively with several facets of active leadership. This relationship could be explained by the fact that both organisations sampled have cultures and norms that support and recognise the importance of, or adherence to, rules. For example, organisation B as a facilities and infrastructure maintenance company has many health and safety processes and policies that shape behaviours in the workplace. Organisation A as a financial institution is heavily bound by laws, governmental regulatory requirements, and internal regulations to which employees must adhere. The inference here is that the leaders surveyed exhibited behaviours consistent with the strong formalisation cultures of both organisations.

The positive relationship found between transformational leadership and follower engagement is consistent with the literature (e.g. Bakker & Demerouti, 2008; Bakker & Xanthopoulou, 2011; Christian, et al., 2011; Karatepe, et al., 2014; Rich, et al., 2010). By inspiring followers and exercising idealised influence, transformational leaders are able to provide meaning for work (Bono & Judge, 2003) and increase intrinsic motivation in followers (Schaufeli & Salanova, 2007), thus resulting in higher follower engagement (Chalofsky & Krishna, 2009).

The negative relationship between laissez-faire leadership and follower engagement may be explained by the ‘destructive’ consequences of laissez-faire leadership (Skogstad, et al., 2007). Avoidant leaders may neglect to offer or be perceived not to offer the necessary support or resources for followers to complete work (Northouse, 2001; Skogstad, et al., 2007), resulting in work-related stress for followers (Li, et al., 2014), which may, in turn, lead to lower engagement (Bakker, Hakanen, Demerouti, & Xanthopoulou, 2007). While

transformational leaders enable followers to view their work as fulfilling, enjoyable, and important, which fosters engagement (Bono & Judge, 2003), passive leaders are unlikely to motivate their followers and may have poor interpersonal relationships with their team, leading to lower job satisfaction and engagement (Tims, et al., 2011). In some cases it may be a consequence of a leader's attempt to be popular and 'easy going' rather than effective.

Limitations and Strengths of the Present Research

Sample size

One limitation of the present research was the small sample size. Several relationships of interest failed to reach significance (see Table D in Appendix I). These relationships might have been significant if tested with a larger sample. As with any statistical test, the statistical power of a multilevel model is proportional to the sample size (Raudenbush, 1997; Raudenbush & Liu, 2000; Snijders, 2001). Moreover, multilevel models employ maximum likelihood (ML) estimation methods, which are asymptotic, and thus reliant on large samples (Browne, 1998; Goldstein, 1995; Maas & Hox, 2005; Raudenbush & Bryk, 2002). Therefore, the relatively small sample size at level 1 ($n = 73$) may bias the estimation of regression coefficients. However, perhaps of greater importance for the stability of multilevel models, is the sample size at the group level (level 2 or leader level) (Moerbeek, van Breukelen, & Berger, 2000).

Many simulation studies have attempted to ascertain recommended minimum sample sizes for multilevel models. Common recommendations are to have 30 or more cases at the level 1 (Hox, 1998; Maas & Hox, 2002; Maas & Hox, 2004) or, alternatively, a minimum of 10 units per group (Clarke & Wheaton, 2007). While the present study exceeded the threshold of 30 participants at level 1, there were fewer than 10 individuals per group, possibly biasing the regression coefficients (Maas & Hox, 2005). Encouragingly, Bell, Ferron, and Kromrey (2008) found that singletons (groups with only a single level 1 rater, of

Self-leadership, leadership styles and employee engagement: Testing moderation models

which there were several in the dataset) only had a small biasing effect when the number of groups was small (fewer than 50). Moreover, the relatively small level 2 sample size of 30 leaders may result in the underestimation of standard errors by up to 15%, possibly leading to a non-convergence rate of 8.9% (c.f. the expected rate of 5%) (Maas & Hox, 2005).

Simulation studies conducted by Busing (1993) and Van der Leeden and Busing (1994) determined that at least 100 groups were needed for accurate group-level variance estimates, whilst Snijders and Bosker (1999) suggested that multilevel models with 10 groups are possible when the level 1 sample size is large ($n > 10$ units per group). Evidently, there is some disagreement among researchers regarding suggested minimum sample sizes at level 1 and 2. Following the recommendations of Maas and Hox (2005) and Clarke and Wheaton (2007), it is suggested that future research aims to gather a sample of at least 30 leaders and 300 followers, thus balancing the need for practicality with the need to improve the statistical power of the analyses and stability of model coefficients.

Generalisability

The response rate must be discussed in relation to its consequences for the generalisability of the findings. The generalisability of a study (i.e. the external validity) refers to the extent to which observed relationships among variables in a study may be applied across settings, time, individuals, and measures (Calder, Phillips, & Tybout, 1982; Shadish, Cook & Campbell, 2002). The current study had a relatively low response rate of 31.29%. A low response rate may inhibit the representativeness of the sample by restricting the inferences one can draw about how the entire sample might have responded (Armstrong and Overton, 1977; Dillman, 1999). The absence of data on non-responses, such as age, managerial experience, or gender, meant that it was not possible to tell whether there was a substantive difference in the responses of those who participated compared to those who did not. A small sample may not be representative of the population of interest (Kish, 1965). Caution should be exercised

Self-leadership, leadership styles and employee engagement: Testing moderation models

when extrapolating and applying the results of the present research to leaders and followers within other organisations.

Design

There are several limitations of the research design that must be considered when interpreting the results. The current research was cross-sectional in nature and is thus limited to making claims of association between variables (which was sufficient for answering the research hypotheses), rather than predictive inferences. In a review of organisational literature, Mitchell and James (2001) called for greater use of longitudinal research to examine temporal changes in variables and relationships. Indeed, Ployhart and Vandenberg (2010) note that a theory is seldom designed to explain a construct at a single point in time. Chan (1998) argued for repeated measures designs, noting that simply separating predictors and outcomes in time often fails to capture fully the dynamic nature of the relationships among and between variables. For instance, engagement may be expected to vary with time. While the current research was designed to accommodate restrictions imposed by the participating organisations, possible improvements for future studies would be to adopt appropriate longitudinal designs as recommended by Ployhart and Vandenberg (2010). Finally, multilevel analyses should be retained, as responses can be nested by measurement point (Fidell & Tabachnick, 2007), in addition to isolating the variance components of organisation and team membership.

Common Method Variance (CMV) refers to the spurious variance that is attributed to the measurement method rather than to the constructs that the method assumes to represent (Podsakoff, MacKenzie, Lee, & Podsakoff, 2003). Many researchers argue that, when a mono-method research design is used, CMV inflates artificially the correlation between variables measured (Cote & Buckley, 1987; Crampton & Wagner, 1994; Doty & Glick, 1998; Lance & Vandenberg, 2009; Spector, 1987; Vandenberg, 2006; Williams, Cote, & Buckley,

1989), and cross-sectional designs are particularly susceptible to CMV (Lindell & Whitney, 2001). A particular strength of the current research was the utilisation of multi-source ratings from both leaders and followers to mitigate CMV effects, in-line with recommendations made by Campbell and Fiske (1959).

The present study produced mixed interrater agreement coefficients for leadership style within teams. Arguments for aggregating individual follower ratings, at the group level, typically hinge upon there being high interrater agreement among raters (e.g., Bledow & Frese, 2009; Burke, Chan-Serafin, Salvador, Smith, & Sarpy, 2008; Henri, 2006; Meade & Eby, 2007; Roberson, Sturman, & Simons, 2007). However, low interrater agreement may be expected depending on the theoretical nature of a construct (Chan, 1998; LeBreton & Senter, 2008). For instance, low within team agreement might be expected if followers occupy varying roles within the team and consequently experience different interactions with their leader quite apart from personality issues. Thus, the moderate levels of interrater agreement (table 3) may be expected when aggregating ratings of leadership and may not undermine the use of multilevel modelling. This would explain the relatively large variability in the ratings of leaders by followers.

A scale's internal consistency is a fundamental measure of its quality (Williams, Moore, Pettibone, & Thomas, 1992; Ziegler, 2014). Cronbach's alpha is said to express the proportion of variance within a scale/dimension that is attributable to the true score (Cronbach, 1951). Unfortunately, not all Cronbach alpha values (Table 2) in the present research were above the accepted threshold specified in the literature of .70 (Nunnally, 1978), with active MBE and passive MBE each demonstrating poor internal consistency ($\alpha = .58$ and $.66$, respectively). Bass and Avolio (1990) found a similar coefficient alpha of $.64$ for active MBE, indicating that the subscale for active MBE may require revision. The

implication for the present research is that caution should be taken when interpreting results involving the dimensions of active or passive MBE.

Suggested Future Research

Increasing attention is being given in leadership literature to informal leadership (Bedeian & Hunt, 2006; Pearce & Conger, 2003). For instance, one could emerge as an informal leader for the duration of a project. Extensive research has sought to identify the characteristics that predict informal leadership emergence (Gough, 1984, Hogan, Curphy, & Hogan, 1994; Lord, Foti, & De Vader, 1984; Mann, 1959; Stogdill, 1948). It is possible that self-leadership may be associated with informal leadership emergence, given the shared agentic traits among self-leaders and informal leaders. For instance, self-leadership has been linked to increased performance outcomes (e.g. Birdi et al., 2008; Cohen & Ledford, 1994; Frayne & Geringer, 2000; Stewart & Barrick, 1994; Tata & Prasad, 2004), and previous instances of success are predictive of informal leadership emergence (Bunderson, 2003). Additionally, as self-leadership is related to active leadership styles, the emergence of an informal leader is reliant upon the extent to which team members perceive the informal leader as possessing the characteristics of an effective leader (Lord & Maher, 1991). Given the increased attention informal leadership is being afforded by organisations (Uhl-Bien, Marion, & McKelvey, 2007), it is recommended that future research examines the possible link between self-leadership and informal leadership emergence rather than focus only upon formal leader-follower relationships.

As discussed, this study identified somewhat unexpected and intriguing negative relationships between the self-leadership dimensions of natural reward strategies and constructive thought-pattern strategies, and active leadership. In particular, the relationships' directionality raised several questions that require clarification. Are the current findings spurious, and thus are the result of item wording and socially desirable responding? Do these

findings reflect a true New Zealand culture difference in interpretations and applications of self-leadership? Because the two samples yielded similar results, there is no evidence that this finding was due to organisational factors. Future research should retest the hypotheses using a larger and diverse New Zealand sample and different measures of self-leadership in order to clarify the underlying mechanisms of the self-leadership and leadership style relationship.

While multiple studies have examined the link between transformational leadership and follower engagement (c.f. Bakker & Demerouti, 2008; Bakker & Xanthopoulou, 2011; Christian, et al., 2011; Karatepe, et al., 2014; Rich, et al., 2010) less emphasis has been placed on transactional leadership as an antecedent of workplace engagement. Subsequent research could examine the short and long-term impacts of transactional leadership on follower engagement. It is possible that engagement fostered through transactional leadership may be short-lived, as the effects of contingent rewards tend to diminish with time (Batista-Taran, Shuck, Gutierrez, & Baralt, 2009). Future research could also examine the relative effect size of each self-leadership facet as a predictor of leadership style. For instance, while self-leadership may be positively related to transactional leadership, this relationship may be weaker than the relationship between self-leadership and transformational leadership, given the absence of intrinsic motivation within transactional leadership styles (Avolio, 2011; Bass & Avolio, 1995).

Several studies have indicated that high self-leadership, both within teams and individuals, is predictive of various outcomes of interest (e.g. Murphy & Ensher, 2001; Prussia, Anderson, & Manz, 1998; Raabe, Frese, & Beehr, 2007; Uhl-Bien & Graen, 1998; Saks & Ashforth, 1996; van Mierlo, Rutte, Seinen, & Kompier, 2001). The current study suggests that a leader's self-leadership is significantly related to their leadership behaviours,

from the followers' perspective, and follower engagement. However, as yet, there is limited research investigating the contributions of a leader's self-leadership to team-level outcomes.

Finally, the measurement of self-leadership needs further development. Natural-reward strategy subscales in the SLQ (Anderson & Prussia, 1997), RSLQ (Houghton & Neck, 2002), and ASLQ (Houghton, et al., 2012) have consistently produced the lowest scale reliabilities of any dimension of self-leadership. In the case of the ASLQ, self-cueing translated particularly poorly into measurement items, with Houghton et al. (2012) contending that self-cueing is predominantly concerned with shaping one's behavioural environment rather than changing one's specific behaviour (c.f. Neck & Manz, 2010). Furtner et al. (2013) argue that integrated operational definitions for self-leadership and its dimensions are lacking, with recent operationalisations of self-leadership still to be incorporated into self-leadership measurement tools. Furthermore, criticisms have been leveled at the psychometric properties of the RSLQ (c.f. Furtner et al., 2011a, 2011b) and its length (e. g., Andressen & Konradt, 2007; Curral & Marques- Quinteiro, 2009; Houghton, et al., 2012). While several authors claim that the RSLQ demonstrates reasonably good construct validity (e.g., Carmeli et al., 2006; Curral & Marques-Quinteiro, 2009; Houghton, Bonham, Neck & Singh, 2004; Houghton & Jinkerson, 2007), a formal evaluation of the nomological net for the ASLQ is still required. Additionally, the poor measurement properties of several items on the ASLQ identified in the current study suggest that a revision of items may be necessary.

Implications for Research and Practice

The present research has several implications for theory and practice. First, the current research contributes to the scarce empirical research on the link between self-leadership and leadership style (Drucker, 1999; Furtner, et al., 2013; Manz & Sims, 1991; Pearce, 2007; Reichard & Johnson, 2011). Several scholars have criticised the Full Range Model of

Self-leadership, leadership styles and employee engagement: Testing moderation models

Leadership as being simplistic (Bass & Avolio, 1993; Pearce, 2007; Yukl, 1998). Manz and Sims (1991) postulated that ‘super leadership’ represented a macro-construct that blended aspects of self-leadership and active leadership behaviours. However, the moderate correlations found between self-leadership and leadership style would suggest that, while linked, these are distinct theoretical constructs. Reichard and Johnson (2011) contend that self-leadership should be viewed as an antecedent of effective leadership. Therefore, as Furtner, et al. (2013) suggest, “super-leadership should not be seen so much as a structural trait, but rather as a conglomerate of intrapersonal (e.g., self-leadership) and interpersonal (e.g., active leadership behaviours) processes that interlock in a developmental perspective to bring forth effective leadership” (p. 447). This study offers further empirical evidence that self-leadership may be worthy of inclusion within future leadership models (Pearce, 2007).

Second, leadership development programmes may benefit from the present findings (Reichard & Johnson, 2011). In particular, the positive associations between behaviour-focussed strategies and active leadership styles indicates that leadership development programmes might benefit from teaching leaders the techniques of self-observation, self-goal setting, self-reward, self-correcting feedback, and self-cueing. Previous research has demonstrated that such techniques can be learned and improved through instruction (e.g. Frayne & Geringer, 2000; Frayne & Latham, 1987; Godat & Brigham, 1999; Latham & Frayne, 1989; Neck & Manz, 1996).

Third, the present research lays the groundwork for an investigation into team-level outcomes of a leader’s self-leadership by suggesting that a leader’s self-governance strategies impact directly their leadership behaviours. With much of the existing research focusing on team-level or follower self-leadership impacts on performance (e.g. Birdi, et al., 2008; Stewart & Barrick, 2000), this area of self-leadership research requires expansion.

Fourth, the not significant relationship between a leader’s transactional leadership and

Self-leadership, leadership styles and employee engagement: Testing moderation models

their team's engagement provides preliminary evidence that transactional leadership styles may not be conducive to engaging followers. Thus, organisations seeking to increase engagement in their workforce might benefit from encouraging leaders to exhibit transformational behaviours and to intrinsically motivate their workforce.

Lastly, as Furtner, et al. (2013) note, self-leadership research has yet to harness fully the capabilities of multilevel analyses (cf. Markham & Markham, 1995; Reichard & Johnson, 2011; Yammarino et al., 2005). The current research showcases the potential applications of multilevel modelling for investigating self-leadership while preserving the natural hierarchical structure of the data (e.g. Costa, Graca, Marques-Quinteiro, Santos, Caetano, & Passos, 2013).

Conclusion

To summarise, a link was found between a leader's self-leadership and their leadership behaviours, as perceived by their followers. Specifically, a leader's behaviour-focussed strategies were associated with active leadership styles and related negatively to passive leadership styles, supporting Manz and Sims' (1991) view that a prerequisite of being a successful leader is to lead oneself. Transformational leadership styles were associated positively with follower engagement. Lastly, while formalisation was not found to moderate the relationship between self-leadership and leadership style, it was related positively to several dimensions of transformational and transactional leadership style. These findings indicate that self-leadership may warrant inclusion within leadership frameworks.

Additionally, the findings suggest that elements of behaviour-focussed strategies should be included in leadership development programmes. While additional research is required to elucidate the relationships among a leader's self-leadership, follower perceptions of leadership style, and team-level outcomes, the current research establishes a solid foundation upon which such research can be built.

References

- Akaike, H. (1973), Information theory and an extension of the maximum likelihood principle, In Petrov, B.N.; Csáki, F., *2nd International Symposium on Information Theory*, Tsahkadsor, Armenia, USSR, September 2-8, 1971, Budapest: Akadémiai Kiadó.
- Albrecht, L.S (2010). *Hand book of employee engagement: perspectives, issues, research and practice*. USA: Edward Elgar publishing limited.
- Alves, J. C., Lovelace, K., Manz, C. C., Matsypura, D., Toyasaki, F., & Ke, K. (2006). A cross cultural perspective of self-leadership. *Journal of Managerial Psychology*, 21, 338-359.
- Anderson, J. S., & Prussia, G. E. (1997). The Self-Leadership Questionnaire: Preliminary assessment of construct validity. *Journal of Leadership Studies*, 4, 119-143.
- Andrasik, F., & Heimberg, J. S. (1982). Self-management procedures. In L. W. Frederickson (Ed.), *Handbook of organizational behavior management*: 219-247. New York: John Wiley.
- Andressen, P., & Konradt, U. (2007). Measurement of self-leadership: A psychometric analysis of the German version of the Revised Self-leadership Questionnaire. *Journal of Personnel Psychology*, 6, 117–128.
- Antonakis, J., Avolio, B. J., & Sivasubramaniam, N. (2003). Context and leadership: an examination of the nine-factor full-range leadership theory using the Multifactor Leadership Questionnaire. *The Leadership Quarterly*, 14(3), 261-295.
- Armstrong, J. S., & Overton, T. S. (1977). Estimating nonresponse bias in mail surveys, *Journal of Marketing Research*. 14 (3), 396-403.
- Ashford, S. J., & Tsui, A. S. (1991). Self-regulation for managerial effectiveness: The role of active feedback seeking. *Academy of Management Journal*, 34, 251–280.
- Attridge, M. (2009). Measuring and managing employee work engagement: A review of the research and business literature. *Journal of workplace behavioral health*. 24, 383-398.
- Avolio, B. J. (2011). *Full range leadership development* (2nd ed.). Thousand Oaks, CA: Sage.
- Avolio, B. J., & Bass, B. M. (1999). Re-examining the components of transformational and transactional leadership using the Multifactor Leadership Questionnaire. *Journal of Occupational and Organizational Psychology*, 72, 441–462.
- Bakker, A. B., & Demerouti, E. (2008). Towards a model of work engagement. *Career Development International*, 13(3), 209-223.
- Bakker, A. B., Hakanen, J. J., Demerouti, E., & Xanthopoulou, D. (2007). Job resources boost work engagement, particularly when job demands are high. *Journal of Educational Psychology*, 99(2), 274-284.
- Bakker, A. B. & Schaufeli, W.B. (2008). Positive organizational behavior: Engaged employees in flourishing organizations. *Journal of Organizational Behavior*, 29, 147154.
- Bal, P. M., De Cooman, R. & Mol, S. T. (2013). Dynamics of psychological contracts with work engagement and turnover intention: The influence of organizational tenure. *European Journal of Work and Organizational Psychology*, 22, 107-122.
- Balducci, C., Fraccaroli, F., & Schaufeli, W. B. (2010). Psychometric properties of the Italian version of the Utrecht Work Engagement Scale (UWES-9). *European Journal of Psychological Assessment*, 26(2), 143–149
- Bandura, A. (1986). *Social foundations of thought and action: A social cognitive theory*. Englewood Cliffs, NJ: Prentice-Hall.
- Bandura, A. Ross, D., & Ross, S. (1961). Transmission of aggression through imitation of aggressive models. *Journal of Abnormal and Social Psychology* 63, 575–582.
- Bass, B. M. (1985). *Leadership and performance beyond expectations*. New York, NY: Free Press.

Self-leadership, leadership styles and employee engagement: Testing moderation models

- Bass, B. M. (1990). From transactional to transformational leadership: Learning to share the vision. *Organizational Dynamics*, 18, 19–32.
- Bass, B. M. (1999). Two decades of research and development in transformational leadership. *European Journal of Work and Organizational Psychology*, 8(1), 9–32.
- Bass, B. M., & Avolio, B. J. (1990). *Transformational leadership development: Manual for the multifactor leadership questionnaire*. Palo Alto, CA: Consulting Psychologists Press.
- Bass, B. M., & Avolio, B. J. (1993). Transformational leadership: A response to critiques. In M. M. Chemers & R. Ayman (Eds.), *Leadership theory and research: Perspectives and directions* (pp. 49–80). New York: Academic Press.
- Bass, B. M., & Avolio, B. J. (1994). *Improving organizational effectiveness through transformational leadership*. Newbury Park, CA: Sage Publications.
- Bass, B. M., & Avolio, B. J. (1995). *MLQ Multifactor Leadership Questionnaire: Technical report*. Redwood City, CA: Mind Garden.
- Bass, B. M., & Avolio, B. J. (1996). *The Team Multifactor Leadership Questionnaire (TMLQ)*. Palo Alto: Mind Garden, Inc.
- Bass, B. M. & Avolio, B. J. (1999). *Manual for the Multifactor Leadership Questionnaire (Form 5X)*. Mind Garden, Inc.
- Bass, B. M. & Avolio, B. J. (2004). *Manual for the Multifactor Leadership Questionnaire (Form 5X)*. Mind Garden, Inc.
- Bass, B. M., & Bass, R. (2008). *The Bass handbook of leadership: Theory, research, and managerial applications (4th ed.)*. New York, NY: Free Press.
- Batista-Taran, L. C., Shuck, M. B., Gutierrez, C. C., & Baralt, S. (2009). The role of leadership style in employee engagement, In M. S. Plakhotnik, S. M. Nielsen, & D. M. Pane (Eds.), *Proceedings of the Eighth Annual College of Education & GSN Research Conference* (pp. 15-20). Miami: Florida International University.
- Baumgartel, H. (1957). Leadership style as a variable in research administration. *Administrative Science Quarterly*, 2, 344–360.
- Bedeian, A. G., & Hunt, J. G. (2006). Academic amnesia and vestigial assumptions of our forefathers. *The Leadership Quarterly*, 17(2), 190–205.
- Bell, B. A., Ferron, J. M., & Kromrey, J. D. (2008). Cluster size in multilevel models: The impact of sparse data structures on point and interval estimates in two-level models. JSM Proceedings, Section on Survey Research Methods. Alexandria, VA: American Statistical Association. 1122 – 1129.
- Bennis, W., & Nanus, B. (1985). *Leaders: The strategies for taking charge*. New York: Harper & Row.
- Berson, Y. (1999). *A comprehensive assessment of leadership using triangulation of qualitative and quantitative methods*. Doctoral Dissertation. State University of New York at Binghamton, Binghamton, NY.
- Biemann, T., Cole, M., & Voelpel, S. (2012). Within-group agreement: On the use (and misuse) of rWG and rWG(J) in leadership research and some best practice guidelines. *Leadership Quarterly*, 23, 66–80.
- Birdi, K., Clegg, C., Patterson, M., Robinson, A., Stride, C. B., Wall, T. D., & Wood, S. J. (2008). The impact of human resources and operational management practices on company productivity: A longitudinal study. *Personnel Psychology*, 61, 467–501.
- Bledow, R. & Frese, M. (2009). A situational judgment test of personal initiative and its relationship to performance. *Personnel Psychology*, 62, 229–258.
- Bliese, P. D. (2000). Within-group agreement, non-independence and reliability. In K. J. Klein, & S. W. J. Kozlowski (Eds.), *Multilevel theory, research and methods in organizations: Foundations, extensions and new directions* (pp. 349–381). San Francisco, CA: Jossey-Bass.

Self-leadership, leadership styles and employee engagement: Testing moderation models

- Bono, J. E., & Judge, T. A. (2003). Self-concordance at work: Toward understanding the motivational effects of transformational leaders. *Academy of Management Journal*, 46, 554–571.
- Bono, J. E., & Judge, T. A. (2004). Personality and transformational and transactional leadership: A meta-analysis. *Journal of Applied Psychology*, 89, 901–910.
- Brass, D. J. (1984). Being in the right place: A structural analysis of individual influence in organizations. *Administrative Science Quarterly*, 29, 518–539.
- Brown, R. T., & Fields, D. (2011). Leaders engaged in self-leadership: Can followers tell the difference? *Leadership*, 7, 275–293.
- Browne, W. J. (1998). *Applying MCMC methods to multilevel models*. Doctoral dissertation, Department of Mathematics, University of Bath.
- Bryant, S. E. (2003). The role of transformational and transactional leadership in creating, sharing and exploiting organisational knowledge. *Journal of Leadership & Organisational Studies*, 9(4), 32–44.
- Bryk, A. S., & Raudenbush, S. W. (1992). *Hierarchical linear models in social and behavioural research: Applications and data analysis methods*. Sage, Beverly Hills, California.
- Bunderson, J. S. (2003). Recognizing and utilizing expertise in work groups: A status characteristics perspective. *Administrative Science Quarterly*, 48, 557–591.
- Burke, M. J., Chan-Serafin, S., Salvador, R., Smith, A., & Sarpy, S. (2008). The role of national culture and organizational climate in safety training effectiveness. *European Journal of Work and Organizational Psychology*, 17, 133–154.
- Burns, J. M. (1978). *Leadership*. New York, NY: Harper & Row.
- Burns, D. D. (1980). *Feeling good: The new mood therapy*. New York, NY: William Morrow.
- Busing, F. (1993). *Distribution characteristics of variance estimates in two-level models*, Unpublished manuscript, Leiden University.
- Calder, B. J., Phillips, L. W., & Tybout, A. M. (1982). The concept of external validity. *Journal of Consumer Research*, 9, 240–244.
- Carmeli, A., Meitar, R., & Weisberg, J. (2006). Self-leadership skills and innovative behavior at work. *International Journal of Manpower*, 27, 75–90.
- Carver, C. S., & Scheier, M. F. (1998). *On the self-regulation of behaviour*. Cambridge, UK: Cambridge University Press.
- Chalofsky, N., & Krishna, V. (2009). Meaningfulness, commitment, and engagement: The intersection of a deeper level of intrinsic motivation. *Advances in Developing Human Resources*, 11, 189–203.
- Chan, D. (1998). Functional relations among constructs in the same content domain at different levels of analysis: A typology of composition models. *Journal of Applied Psychology*, 83, 234–246.
- Chang, S. J., van Witteloostuijn, A., & Eden, L. (2010). Common method variance in international business research. *Journal of International Business Studies*, 41, 178–184.
- Christian, M.S., Garza, A.S., Slaughter, J.E., (2011). Work engagement: a quantitative review and test of its relations with task and contextual performance. *Personnel Psychology*, 64(1), 89–136.
- Chung, A., Chen, I.-H., Yun-Ping Lee, A., Chun Chen, H., & Lin, Y. (2011). Charismatic leadership and self-leadership: A relationship of substitution or supplementation in the contexts of internalization and identification? *Journal of Organizational Change Management*, 24, 299–313.
- Clarke, P., & Wheaton, B. (2007). Addressing data sparseness in contextual population research using cluster analysis to create synthetic neighborhoods. *Sociological Methods & Research*, 35, 311 – 351.

Self-leadership, leadership styles and employee engagement: Testing moderation models

- Cohen, S., Chang, L., & Ledford, G. (1997). A hierarchical construct of self-management leadership and its relationship to quality of work life and perceived work group effectiveness. *Personnel Psychology*, 50, 275-308.
- Cohen, S. G., & Ledford, G. E. (1994). The effectiveness of self-managing teams: A quasi-experiment. *Human Relations*, 47, 13-44.
- Cohen, S. G., Ledford, G. E., & Spreitzer, G. M. (1996). A predictive model of self-managing work team effectiveness. *Human Relations*, 49, 643-676.
- Cooke, W. N. (1994). Employee participation programs, group-based incentives, and company performance: A union-nonunion comparison. *Industrial and Labor Relations Review*, 47, 594-609.
- Costa, P. L., Graca, A. M., Marques-Quinteiro, P., Santos, C. M., Caetano, A., & Passos, A. M. (2013). Multilevel research in the field of organisational research: An empirical look at 10 years of theory and research. *SAGE Open*, 1-17.
- Costello, A. B., & Osborne, J. W. (2005). Best practices in exploratory factor analysis: Four recommendations for getting the most from your analysis. *Practical Assessment, Research, and Evaluation*, 10(7), 1-9.
- Cote, J. A., & Buckley, M. R. (1987). Estimating trait, method and error variance: Generalizing across 70 construct validation studies. *Journal of Marketing Research*, 26, 315-318.
- Crampton, S. M., & Wagner, J. A. III. (1994). Perceptual inflation in microorganizational research: An investigation of prevalence and effect. *Journal of Applied Psychology*, 79, 67-76.
- Cronbach, L. J. (1951). Coefficient alpha and the internal structure of tests. *Psychometrika*, 16 (3), 297-334.
- Curral, L., & Marques-Quinteiro, P. (2009). Self-leadership and work role innovation: Testing a mediation model with goal orientation and work motivation. *Revista de Psicologia del Trabajo y de las Organizaciones*, 25, 165-176.
- Day, D. (2000). Leadership development: A review in context. *Leadership Quarterly*, 11, 581-613.
- Deci, E. L., & Ryan, R. M. (1985). *Intrinsic motivation and self-determination in human behavior*. New York: Plenum.
- Deci, E. L., & Ryan, R. M. (1987). The support of autonomy and control of behavior. *Journal of Personality and Social Psychology*, 53, 1024-1037.
- Digman, J. M. (1997). Higher-order factors of the Big Five. *Journal of Personality and Social Psychology*, 73, 1246-1256.
- Dillman, D. A. (1999). *Mail and internet surveys: The tailored design method*. New York, NY, Wiley Interscience.
- Doty, D. H., & Glick, W. H. (1998). Common methods bias: Does common methods variance really bias results? *Organizational Research Methods*, 1, 374-406.
- Driskell, J. E., Copper, C., & Moran, A. (1994). Does mental practice enhance performance? *Journal of Applied Psychology*, 79, 481-492.
- Drucker, P. (1999). Managing oneself. *Harvard Business Review*, March-April, 65-74.
- Druskat, V. U., & Wolff, S. B. (1999). Effects and timing of peer appraisals in self-managing work groups. *Journal of Applied Psychology*, 84, 58-74.
- Ellis, A. (1975). *A new guide to rational living*. Englewood Cliffs, NJ: Prentice-Hall.
- Erez, A., Lepine, J. A., & Elms, H. (2002). Effects of rotated leadership and peer evaluation on the functioning and effectiveness of self-managed teams: A quasi-experiment. *Personnel Psychology*, 55, 929-948.
- Fidell, B. G., & Tabachnick, L. S. (2007). *Using multivariate statistics (5th ed.)*. Pearson; Boston, Montreal.

Self-leadership, leadership styles and employee engagement: Testing moderation models

- Frayne, C. A., & Geringer, J. M. (2000). Self-management training for improving job performance: A field experiment involving salespeople. *Journal of Applied Psychology*, 85, 361-372.
- Frayne, C. A., & Latham, G. P. (1987). Application of social-learning theory to employee self-management of attendance. *Journal of Applied Psychology*, 72, 387-392.
- Furtner, M. R., Baldegger, U., & Rauthmann, J. F. (2013) Leading yourself and leading others: Linking self-leadership to transformational, transactional, and laissez-faire leadership. *European Journal of Work and Organizational Psychology*, 22(4), 436-449.
- Furtner, M. R., & Rauthmann, J. F. (2010). Relations between self-leadership and scores on the Big Five. *Psychological Reports*, 107, 339-353.
- Furtner, M. R., Rauthmann, J. F., & Sachse, P. (2010). The socioemotionally intelligent self-leader: Examining relations between self-leadership and socioemotional intelligence. *Social Behavior and Personality*, 38, 1191-1196.
- Furtner, M. R., Rauthmann, J. F., & Sachse, P. (2011b). Unique self-leadership: Discriminant and incremental validity of self-leadership. Manuscript submitted for publication.
- Furtner, M. R., Rauthmann, J. F., Seubert, C. T., & Baldegger, U. (2011a). How are self-leaders perceived? Interpersonal perceptions of self-leadership. Manuscript in preparation.
- Georgianna, S. (2007). Self-leadership: A cross-cultural perspective. *Journal of Managerial Psychology*, 22, 569-589.
- Ghadi, M. Y., Fernando, M., & Caputi, P. (2013). Transformational leadership and work engagement: The mediating effect of meaning in work. *Leadership & Organization Development Journal*, 34(6), 532-550.
- Godat, L. M., & Brigham, T. A. (1999). The effect of a self-management training program on employees in a mid-sized organization. *Journal of Organizational Behavior Management*, 19, 65-83.
- Goldstein, H. (1995). *Multilevel statistical models*. Arnold: London.
- Gough, H. G. (1984). A managerial potential scale for the California Psychological Inventory. *Journal of Applied Psychology*, 69, 233-240.
- Hackman, J. R. (1986). The psychology of self-management in organizations. In M. S. Pollack & R. O. Perloff (Eds.), *Psychology and work: Productivity change and employment*: 85-136. Washington, DC: American Psychological Association.
- Hall, R. H. (1991). *Organizations: Structures, processes and outcomes*. Englewood Cliffs, NJ: Prentice-Hall.
- Harackiewicz, J. M., & Manderlink, G. (1984). A process analysis of the effects of performance-contingent rewards on intrinsic motivation. *Journal of Experimental Social Psychology*, 20(6), 531-551.
- Hargis, M. B., Wyatt, J. D., & Piotrowski, C. (2011). Developing leaders: Examining the role of transactional and transformational leadership across contexts business. *Organization Development Journal*, 29(3), 51-66.
- Harms, P. D., & Crede, M. (2010). Emotional intelligence and transformational and transactional leadership: A meta-analysis. *Journal of Leadership and Organizational Studies*, 17, 5-17.
- Hayes, A. F. (2006). A primer on multilevel modelling. *Human Communication Research*, 32(4), 385-410.
- Ho, J., & Nesbit, C. L. (2009). A refinement and extension of the self-leadership scale for the Chinese context. *Journal of Managerial Psychology*, 24, 450-476.
- Hofmann, D. A., & Gavin, M. B. (1998). Centering decisions in hierarchical linear models: Theoretical and methodological implications for organizational science. *Journal of Management*, 23, 623-641.

Self-leadership, leadership styles and employee engagement: Testing moderation models

- Hofmann, D. A., Griffin, M. A., & Gavin, M. B. (2000). The application of hierarchical linear modeling to organizational research. In K. J. Klein & S. W. Kozlowski (Eds.), *Multilevel theory, research, and methods in organizations* (pp. 467-511). San Francisco: Jossey-Bass.
- Hogan, R., Curphy, G., & Hogan, J. (1994). What we know about leadership: Effectiveness and personality. *American Psychologist*, 49, 493–504.
- Holt, E. B., & Brown, H.C. (1931). *Animal drive and the learning process, an essay toward radical empiricism*. New York: H. Holt and Co.
- Houghton, J. D., Bonham, T. W., Neck, C. P., & Singh, K. (2004). The Relationship between self-leadership and personality: A comparison of hierarchical factor structures. *Journal of Managerial Psychology*, 19, 427-441.
- Houghton, J. D., & Jinkerson, D. L. (2007). Constructive thought strategies and job satisfaction: A preliminary examination. *Journal of Business and Psychology*, 22, 45-53.
- Houghton, J. D., & Neck, C. P. (2002). The Revised Self-leadership Questionnaire: Testing a hierarchical factor structure for self-leadership. *Journal of Managerial Psychology*, 17, 672–691.
- Houghton, J. D., Dawley, D., & DeLiello, T. C. (2012). The abbreviated self-leadership questionnaire (ALSQ): A more concise measure of self-leadership. *International Journal of Leadership Studies*, 7(2), 216-232.
- Hox, J. J. (1998). Multilevel modeling: When and why. In I. Balderjahn, R. Mathar & M. Schader (Eds.), *Classification, data analysis, and data highways* (pp. 147-154). New York: Springer Verlag.
- IBM Corporation. (2013). *IBM SPSS Statistics for Mac, Version 22.0* [computer software]. Armonk, NY: IBM Corp.
- Ilies, R., Morgeson, F. P., & Nahrgang, J. D. (2005). Authentic leadership and eudaemonic well-being: Understand leader- follower outcomes. *Leadership Quarterly*, 16, 373–394.
- James, L. R. (1982). Aggregation bias in estimates of perceptual agreement. *Journal of Applied Psychology*, 67, 219–229.
- James, L. R., Demaree, R. G., & Wolf, G. (1984). Estimating within-group interrater reliability with and without response bias. *Journal of Applied Psychology*, 69, 85–98.
- James, L. R., Demaree, R. G., & Wolf, G. (1993). An assessment of within-group interrater agreement. *Journal of Applied Psychology*, 78, 306–309.
- Judge, T. A., & Bono, J. E. (2000). Five-factor model of personality and transformational leadership. *Journal of Applied Psychology*, 85, 751–765.
- Judge, T. A., & Piccolo, R. F. (2004). Transformational and transactional leadership: A meta-analytic test of their relative validity. *Journal of Applied Psychology*, 89, 755–768.
- Kanfer, F. H. (1970). Self-regulation: Research, issues, and speculation. In C. Neuringer & J. L. Michael (Eds.), *Behavior modification in clinical psychology* (pp. 178-220). New York: Appleton-Century-Crofts.
- Kanfer, F. H., & Gaelick-Buys, L. (1991). Self-management methods. In Kanfer, Frederick H. (Ed); Goldstein, Arnold P. (Ed), *Helping people change: A textbook of methods* (4th ed.). Pergamon general psychology series, 52. 305-360. Elmsford, NY, US: Pergamon Press.
- Karatepe, O. M., Beirami, E., Bouzari, M., & Safavi, H. P. (2014). Does work engagement mediate the effects of challenge stressors on job outcomes? Evidence from the hotel industry. *International Journal of Hospitality Management*, 36 (1), 14-22.
- Katz, D., Maccoby, N., Gurin, G., & Floor, L. (1951). *Productivity, supervision, and morale among railroad workers*. Ann Arbor: University of Michigan, Institute for Social Research.

Self-leadership, leadership styles and employee engagement: Testing moderation models

- Kirkman, B. L., & Shapiro, D. L. (1997). The impact of cultural values on employee resistance to teams: Toward a model of globalized self-managing work team effectiveness. *Academy of Management Review*, 22, 730-757.
- Kirkman, B. L., & Shapiro, D. L. (2001). The impact of cultural values on job satisfaction and organizational commitment in self-managing work teams: The mediating role of employee resistance. *Academy of Management Journal*, 44, 557-569.
- Kish, L. (1965). *Survey Sampling*. Wiley: NY.
- Lance, C. E., & Vandenberg, R. J. (2009). *Statistical and methodological myths and urban legends: Doctrine, verity, and fable in organizational and social research*. New York: Routledge.
- Latham, G. P., & Frayne, C. A. (1989). Self-management training for increasing job attendance: A follow-up and a replication. *Journal of Applied Psychology*, 74, 411-416.
- LeBreton, J. M. & Senter, J. L. (2008). Answers to 20 questions about interrater reliability and interrater agreement. *Organizational Research Methods*, 11, 815-852.
- Lewin, K., Lippitt, R., & White, R. K. (1939). Patterns of aggressive behavior in experimentally created social climates. *Journal of Social Psychology*, 10, 271-301.
- Li, L., Hu, H., Zhou, H., He, C., Fan, L., Lui, X., Zhang, Z., Li, H., & Sun, T. (2014). Work stress, work motivation and their effects on job satisfaction in community health workers: a cross-sectional survey in China. *BMJ Open*, 4(6).
- Lindell, M. K., & Whitney, D. J. (2001). Accounting for common method variance in cross-sectional research designs. *Journal of Applied Psychology*, 86, 114-121.
- Locke, E. A., & Latham, G. P. (1990). *A theory of goal setting and task performance*. Upper Saddle River, NJ: Prentice Hall.
- Lord, R. G., Foti, R. J., & De Vader, C. L. (1984). A test of leadership categorization theory: Internal structure, information processing, and leadership perceptions. *Organizational Behavior and Human Performance*, 34(3), 343-378.
- Lord, R. G., & Maher, K. J. (1991). *Leadership and information processing: Linking perceptions and performance*. Boston: Unwin Hyman.
- Luthans, F., & Davis, T. (1979). Behavioral self-management (BSM): The missing link in managerial effectiveness. *Organizational Dynamics*, 8, 42-60.
- Maas, C. J. M., & Hox, J. J. (2004). Robustness issues in multilevel regression analysis. *Statistica Neerlandica*, 58, 127-137.
- Maas, C. J. M., & Hox, J. J. (2005). Sufficient sample sizes for multilevel modeling. *Methodology*, 1, 86-92.
- Macey, W. H., & Schneider, B. (2008). The meaning of employee engagement. *Industrial and Organizational Psychology: Perspectives on Science and Practice*, 1, 3-30.
- Mahoney, M. J., & Arnkoff, D. B. (1978). Cognitive and self-control therapies. In S. L. Garfield & A. E. Bergin (Eds.), *Handbook of psychotherapy and behavior change* (pp. 689-722). New York: Wiley.
- Mahoney, M. J., & Arnkoff, D. B. (1979). Self-management: Theory, research, and application, In J. P. Brady & D. Pomerleau (Eds.), *Behavioral medicine: Theory and practice*: 75-96. Baltimore: Williams and Williams.
- Makiney, J. D., Marchioro, C. A., & Hall, R. J. (1999). *Relations of leaders' perceptions to personality, leadership style and self- schema*. Paper for the Society for Industrial and Organizational Psychology, Boston, MA.
- Mann, R. D. (1959). A review of the relationship between personality and performance in small groups. *Psychological Bulletin*, 66, 241-270.
- Manz, C. C. (1986). Self-leadership: Toward an expanded theory of self-influence processes in organizations. *Academy of Management Review*, 11, 585-600.

Self-leadership, leadership styles and employee engagement: Testing moderation models

- Manz, C. C. (1991). Leading employees to be self-managing and beyond: Toward the establishment of self-leadership in organizations, *Journal of Management Systems*, 3, 15-24.
- Manz, C. C. (1992). Self-leading work teams: Moving beyond self-management myths. *Human Relations*, 45, 1119-1140.
- Manz, C. C., & Sims, H. P., Jr. (1980). Self-management as a substitute for leadership: A social learning perspective. *Academy of Management Review*, 5, 361-367.
- Manz, C. C., & Sims, H. P., Jr. (1987). Leading workers to lead themselves: The external leadership of self-managing work teams. *Administrative Science Quarterly*, 32, 106-128.
- Manz, C. C., & Sims, H. P., Jr. (1990). *Super leadership: Leading others to lead themselves*. Upper Saddle River, NJ: Prentice Hall.
- Manz, C. C., & Sims, H. P., Jr. (1991). Super leadership: Beyond the myth of heroic leadership. *Organizational Dynamics*, 19, 18-35.
- Manz, C. C., & Sims, H. P., Jr. (2001). *The new super leadership: Leading others to lead themselves*. San Francisco, CA: Berrett-Koehler.
- Markham, S. E., & Markham, I. S. (1995). Self-management and self-leadership reexamined: A levels-of-analysis perspective. *Leadership Quarterly*, 6, 343-359.
- Maslach, C., Jackson, S. E., & Leiter, M. P. (1996). *Maslach Burnout Inventory—Manual (3rd ed.)*. Palo Alto, CA: Consulting Psychologists Press.
- Maslach, C., & Leiter, M. P. (1997). *The truth about burnout: How organizations cause personal stress and what to do about it*. San Francisco: Jossey-Bass.
- Maslach, C., Schaufeli, W. B., & Leiter, M. P. (2001). Job burnout. *Annual Review of Psychology*, 52, 397-422.
- Maslow, A. D. A. (1943). A theory of human motivation. *Psychological Review*, 50, 370-396.
- Mathieu, J. E., Gilson, L. L., & Ruddy, T. M. (2006). Empowerment and team effectiveness: An empirical test of an integrated model. *Journal of Applied Psychology*, 91, 97-108.
- Meade, A. W., & Eby, L. T. (2007). Using indices of group agreement in multilevel construct validation. *Organizational Research Methods*, 10, 75-96.
- Microsoft Corporation. (2010). *Microsoft Excel* [computer software]. Redmond, Washington: Microsoft.
- Mitchell, T. R., & James, L. R. (2001). Building better theory: Time and the specification of when things happen. *The Academy of Management Review* 26(4), 530-547.
- Moerbeek, M., van Breukelen, G. J. P., & Berger, M. P. F. (2000). Design issues for experiments in multilevel populations. *Journal of Educational and Behavioral Statistics*, 25, 271-284.
- Moravec, M., Johannessen, O. J., & Hjelman, T. A. (1998). The well-managed SMT. *Management Review*, 87, 56-58.
- Murphy, S. E. (2002). Leader self-regulation: The role of self-efficacy and multiple intelligences. In R. Riggio, S. Murphy, & F. J. Pirozzolo (Eds.), *Multiple intelligences and leadership* (pp. 163-187). Mahwah, NJ: Lawrence Erlbaum Associates, Inc.
- Murphy, S. E., & Ensher, E. A. (2001). The role of mentoring support and self-management strategies on reported career outcomes. *Journal of Career Development*, 27, 229-246.
- Naughton, T. J. & Outcalt, D. (1988). Development and test of an occupational taxonomy based on job characteristics theory. *Journal of Vocational Behavior*, 32, 16-36.
- Neck, C., & Houghton, J. (2006). Two decades of self-leadership theory and research: Past developments, present trends, and future possibilities. *Journal of Managerial Psychology*, 21, 270-295.
- Neck, C. P., & Manz, C. C. (1992). Thought self-leadership: The impact of self-talk and mental imagery on performance. *Journal of Organizational Behavior*, 12, 681-699.

Self-leadership, leadership styles and employee engagement: Testing moderation models

- Neck, C. P., & Manz, C. C. (1996). Thought self-leadership: The impact of mental strategies training on employee cognition, behavior, and affect. *Journal of Organizational Behavior*, 17, 445-467.
- Neck, C. P., & Manz, C. C. (2010). *Mastering self-leadership: Empowering yourself for personal excellence*. Upper Saddle River, NJ: Prentice-Hall.
- Neubert, M. J., & Wu, J. C. C. (2006). An investigation of the generalizability of the Houghton and Neck Revised Self-Leadership Questionnaire to a Chinese context. *Journal of Managerial Psychology*, 21, 360-373.
- Niehoff, B. F., Eng, B. C. A., & Grover, R. A. (1990). The impact of top management actions on employee attitudes and perceptions. *Group & Organization Studies*, 15, 337-352.
- Nohria, N., Groysberg, B., & Lee, L. (2008). Employee motivation. *Harvard Business Review*, July-August.
- Northouse, P. (2004). *Leadership: theory and practice*. Thousand Oaks, CA: Sage.
- Nunnally, J. C. (1978). Assessment of reliability. In: *Psychometric theory (2nd ed.)*. New York: McGraw-Hill.
- Nunnally, J. C., & Bernstein, I. H. (1994). *Psychometric theory 3*. New York, NY: McGraw-Hill.
- Patterson, M. G., West, M. A., Shackleton, V. J., Dawson, J. F., Lawthom, R., Maitlis, S., Robinson, D. L., & Wallace, A. M. (2005). Validating the organizational climate measure: Links to managerial practices, productivity and innovation. *Journal of Organizational Behavior*, 26, 379-408.
- Pearce, C. L. (2007). The future of leadership development: The importance of identity, multi-level approaches, self-leadership, physical fitness, shared leadership, networking, creativity, emotions, spirituality and on-boarding processes. *Human Resource Management Review*, 17, 355-359.
- Pearce, C. L., & Conger, J. (2003). *Shared leadership: Reframing the hows and whys of leadership*. Thousand Oaks, CA: Sage.
- Ployhart, R. E. & Vandenberg, R. J. (2010). Longitudinal research: The theory, design, and analysis of change. *Journal of Management*, 36, 94-120.
- Podsakoff, P. M., MacKenzie, C. B., Lee, J.-Y., & Podsakoff, N. P. (2003). Common method biases in behavioral research: A critical review of the literature and recommended remedies. *Journal of Applied Psychology*, 88, 879-903.
- Podsakoff, P.M., MacKenzie, S.B., & Podsakoff, N.P. (2012). Sources of method bias in social science research and recommendations on how to control it. *Annual Review of Psychology*, 63, 539-569.
- Prussia, G. E., Anderson, J. S., & Manz, C. C. (1998). Self-leadership and performance outcomes: The mediating influence of self-efficacy. *Journal of Organizational Behavior*, 19, 523-538.
- Pugh, D. S., Hickson, D. J., Hinings, C. R., & Turner, C. (1968). Dimensions of organizational structure. *Administrative Science Quarterly*, 13, 65-91.
- Qualtrics, (2014), accessed on 17/07/2015 from: <http://www.qualtrics.com/>
- Quinn, R. E., & Rohrbaugh, J. (1981). A competing values approach to organizational effectiveness. *Public Productivity Review*, 5, 122-140.
- Raabe, B., Frese, M., & Beehr, T. A. (2007). Action regulation theory and career self-management. *Journal of Vocational Behavior*, 70, 297-311.
- Raudenbush, S. W. (1997). Statistical analysis and optimal design for cluster randomized trials. *Psychological Methods*, 2, 173-185.
- Raudenbush, S. W. Bryk, A. S. (2002). *Hierarchical linear models: Applications and data analysis methods. 2nd edition*. Newbury Park , CA : Sage.

Self-leadership, leadership styles and employee engagement: Testing moderation models

- Raudenbush, S.W., & Liu, X.-F. (2000). Statistical power and optimal design for multisite randomized trials. *Psychological Methods*, 5, 199–213.
- Reichard, R. J., & Johnson, S. K. (2011). Leader self-development as organizational strategy. *Leadership Quarterly*, 22, 33–42.
- Rich, B. L., LePine, J. A., Crawford, E. R., (2010). Job engagement: antecedents and effects on job performance. *Academy of Management Journal*, 53 (3), 617–635.
- Roberson, Q. M., Sturman, M. C., & Simons, T. L. (2007). Does the measure of dispersion matter in multilevel research? A comparison of the relative performance of dispersion indices. *Organizational Research Methods*, 10, 564–588.
- Saks, A. M., & Ashforth, B. E. (1996). Proactive socialization and behavioral self-management. *Journal of Vocational Behavior*, 48, 301–323.
- Schaufeli, W., & Bakker, A. (2003). *Utrecht Work Engagement Scale: Preliminary manual*. Occupational Health Psychology Unit, Utrecht University: Netherlands.
- Schaufeli, W. B., Bakker, A. B., & Salanova, M. (2006). The measurement of work engagement with a short questionnaire. A cross-national study. *Educational and Psychological Measurement*, 66, 701–716.
- Schaufeli, W., & Bakker, A. & van Rhenen, W. (2009). How changes in job demands and resources predict burnout, work engagement, and sickness absenteeism. *Journal of Organisational Behaviour*, 30, 893–917.
- Schaufeli, W. B., Salanova, M., Gonzalez-Romá, V., & Bakker, A. B. (2002). The measurement of engagement and burnout: A confirmative analytic approach. *Journal of Happiness Studies*, 3, 71–92.
- Schaufeli, W., & Salanova, M. (2007). Work engagement: An emerging psychological concept and its implications for organizations. In S. W. Gilliland, D. D. Steiner, & D. P. Skarlicki (Eds.), *Research in social issues in management (Volume 5): Managing social and ethical issues in organizations* (pp. 135–177). Greenwich, CT: Information Age Publishers.
- Schermerhorn, J. R., Hunt, J. G., & Osborn, R. N. (2008). *Organizational Behavior* (10th ed.). USA: John Wiley & Sons, Inc.
- Schminke, M., Ajnbrose, M. L., & Cropanzano, R. (2000). The effect of organizational structure on perceptions of fairness. *Journal of Applied Psychology*, 85, 294–304.
- Shadish, W. R., Cook, T. D. & Campbell, D.T. (2002). *Experimental and quasi-experimental designs for generalized causal inference*. Boston: Houghton Mifflin Company.
- Shamir, B. (1991). The charismatic relationship: Alternative explanations and predictions. *Leadership Quarterly*, 2, 81–104.
- Shamir, B., House, R. J., & Arthur, M. B. (1993). The motivational effects of charismatic leadership: A self-concept based theory. *Organization Science*, 4, 577–594.
- Shaw, J. D., Gupta, N., & Delery, J. E. (2001). Congruence between technology and compensation systems: Implications for strategy implementation. *Strategic Management Journal*, 22, 379–386.
- Skogstad, A., Einarsen, S., Torsheim, T., Aasland, M. S., & Hetland, H. (2007). The destructiveness of laissez-faire leadership behavior. *Journal of Occupational Health Psychology*, 12(1), 80.
- Snijders, T. A. B. (2001). Sampling. Chapter 11 (pp. 159–174) In A. Leyland & H. Goldstein (eds.), *Multilevel Modelling of Health Statistics*. Chichester etc.: Wiley.
- Snijders, T. A. B. & Bosker, R. J. (1993). Standard errors and sample sizes for two-level research. *Journal of Educational Statistics*, 18, 237–259.
- Snijders, T. A. B., & Bosker, R. J. (1999). *Multilevel analysis: An introduction to basic and advanced multilevel modelling*. London: Sage.

Self-leadership, leadership styles and employee engagement: Testing moderation models

- Sosik, J. J., & Dworakivsky, A. C. (1998). Self-concept based aspects of the charismatic leader: More than meets the eye. *Leadership Quarterly*, 9, 503–526.
- Sosik, J. J., & Jung, D. I. (2010). *Full range leadership development: Pathways for people, profit, and planet*. New York, NY: Psychology Press.
- Spector, P. E. (1987). Method variance as an artifact in self-reported affect and perceptions at work: Myth or significant problem? *Journal of Applied Psychology*, 72, 438–443.
- Spector, P. E. (2006). Method variance in organizational research: Truth or urban legend? *Organizational Research Methods*, 9, 221–232.
- Stewart, G. L., & Barrick, M. R. (2000). Team structure and performance: Assessing the mediating role of intrateam process and the moderating role of task type. *Academy of Management Journal*, 43, 135–148.
- Stewart, G. L., Carson, K. P., & Cardy, R. L. (1996). The joint effects of conscientiousness and self-leadership training on employee self-directed behavior in a service setting. *Personnel Psychology*, 49, 143–164.
- Stewart, G. L., Courtright, S. H., & Barrick, M. R. (2010). Peer-based reward and team performance: The moderating effect of cohesion. In E. Salas (Chair), *Taking a structural approach to understanding and managing team performance*. Symposium at the annual meeting of the Society for Industrial and Organizational Psychology, Atlanta, GA.
- Stewart, G. L., Courtright, S. H., & Manz, C. C. (2011). Self-leadership: A multilevel review. *Journal of Management*, 37, 185–222.
- Stogdill, R. M. (1948). Personal factors associated with leadership: A survey of the literature. *Journal of Psychology*, 25, 35–71.
- Tata, J., & Prasad, S. (2004). Team self-management, organizational structure, and judgments of team effectiveness. *Journal of Managerial Issues*, 16, 248–265.
- Tekleab, A. G., Sims, H. P., Jr., Yun, S., Tesluk, P. E., & Cox, J. (2008). Are we on the same page? Effects of self-awareness on empowering and transformational leadership. *Journal of Leadership and Organizational Studies*, 14, 185–201.
- Thoresen, C. E., & Mahoney, M. J. (1974). *Behavioral self-control*. New York: Holt, Rinehart, and Winston.
- Tims, M., Bakker, A. B., & Xanthopoulou, D. (2011). Do transformational leaders enhance their followers' daily work engagement? *The Leadership Quarterly*, 22, 121–131.
- Tsui, A. S., & Ashford, S. J. (1994). Adaptive self-regulation: a process view of managerial effectiveness. *Journal of Management*, 20, 93–121.
- Uhl-Bien, M., & Graen, G. B. (1998). Individual self-management: Analysis of professionals' self-managing activities in functional and cross-functional teams. *Academy of Management Journal*, 41, 340–35.
- Uhl-Bien, M., Marion, R., & McKelvey, B. 2007. Complexity leadership theory: Shifting leadership from the industrial age to the knowledge era. *The Leadership Quarterly*, 18(4): 298–318.
- Van der Leeden, R., & Busing, F. (1994). *First iteration versus IGLS RIGLS estimates in two-level models: A Monte Carlo study with ML3*, Unpublished manuscript, Leiden University.
- van Mierlo, H., Rutte, C. G., Seinen, B., & Kompier, M. A. J. (2001). Autonomous teamwork and psychological well-being. *European Journal of Work & Organizational Psychology*, 10, 291–301.
- Vandenberg, R. J. (2006). Statistical and methodological myths and urban legends: Where, pray tell, did they get this idea? *Organizational Research Methods*, 9, 194–201.
- Verbeke, G., & Molenberghs, G. (2000). *Linear mixed models for longitudinal data*. New York: Springer.

Self-leadership, leadership styles and employee engagement: Testing moderation models

- Vroom, V. H. (1964). *Work and motivation*. New York: Wiley.
- Walumbwa, F.O., & Lawler, J.J. (2003). Building effective organizations. Transformational leadership, collectivist orientation, work-related attitudes, and withdrawal behaviors in three emerging economies. *International Journal of Human Resource Management*, 14, 1083-1101.
- Walumbwa, O.F., Lawler, J.J., Avolio, B.J., & Wang, P. (2003). Relationship between transformational leadership and work-related attitudes: The Moderating effects of collective and self-efficacy across cultures. Working paper, University of Nebraska, Lincoln.
- Walumbwa, F.O., Wang, P., Lawler, J.J., & Shi, K. (2004). The role of collective efficacy in the relations between transformational leadership and work outcomes. *Journal of Occupational and Organizational Psychology*, 77(4), 515-530.
- Wefald, A. J., & Downey, R. G. (2009). Job engagement in organisations: Fad, Fashion, or folderol? *Journal of Organizational Behaviour*, 30, 141-145.
- Williams, L. J., Cote, J. A., & Buckley, M. R. (1989). Lack of method variance in self-reported affect and perceptions at work: Reality or artifact? *Journal of Applied Psychology*, 74, 462-468.
- Williams, H. M., Parker, S. K., & Turner, N. (2010). Proactively performing teams: The role of work design, transformational leadership, and team composition. *Journal of Occupational and Organizational Psychology*, 83, 301-324.
- Williams, R. L., Moore, C. A., Pettibone, T. J., & Thomas, S. P. (1992). Construction and validation of a brief self-report scale of self-management practices, *Journal of Research in Personality*, 26(3), 216-234.
- Woehr, D.J., Loignon, A.L., Schmidt, P., Loughry, M., & Ohland, M.W. (2015). Justifying aggregation in multilevel research: A review and examination of cutoff values for common aggregation indices. *Organizational Research Methods*, 18(4), 704-737.
- Yammarino, F. J., Dionne, S. D., Chun, J. A., & Dansereau, F. (2005). Leadership and levels of analysis: A state-of-the-science review. *Leadership Quarterly*, 16, 879-919.
- Yukl, G. (1994). *Leadership in Organization*. Englewood Cliffs, NJ: Prentice-Hall.
- Yukl, G. (1999). An evaluation of conceptual weaknesses in transformational and charismatic leadership theories. *Leadership Quarterly*, 10, 285-30.
- Ziegler, M. (2014). Stop and state your intentions! Let's not forget the ABC of test construction. *European Journal of Psychological Assessment*, 30, 239-242.

Appendices

Appendix A – Follower Invitation to Participate:

Hi,

You are invited to participate in Masters' thesis research conducted by Luke Crossen from the Psychology Department at the University of Canterbury, under the supervision of Dr Joana Kuntz.

The purpose of this study is to examine the relationship between your leader's self-led strategies and their leadership style, and team engagement. The results from this study may help improve the leadership quality within your organisation.

If you volunteer to participate in this study, you will be asked to complete a short **10-15 minute survey** about your leader's leadership style, your engagement at work, and the organisational climate.

Up for grabs are three \$50 petrol vouchers – recipients will be notified mid October!

We hope to have you on board. Please do not hesitate to contact me for further information, including a copy of the results upon the conclusion of the research.

Dr Joana Kuntz (joana.kuntz@canterbury.ac.nz) Ph. 03 3642 987 ext 3635

Luke Crossen (lsc55@uclive.ac.nz) Ph. 027 863 7755

Click the link below to participate in the research! You will receive more information about the project and your participant rights at the start of the questionnaire.

Leader Invitation to Participate:

Hi,

You are invited to participate in Masters' thesis research conducted by Luke Crossen from the Psychology Department at the University of Canterbury, under the supervision of Dr Joana Kuntz.

The purpose of this study is to examine the relationship between your personal self-governance strategies and your perceived leadership style (as rated by your team), and team engagement (as rated by your team). The results from this study may help improve the leadership quality within your organisation.

If you volunteer to participate in this study, you will be asked to complete a short **10-15 minute survey** about your leadership style and the degree of bureaucracy you experience in your job.

Up for grabs are three \$50 petrol vouchers – recipients will be notified mid October!

We hope to have you on board. Please do not hesitate to contact me for further information, including a copy of the results upon the conclusion of the research.

Self-leadership, leadership styles and employee engagement: Testing moderation models

Dr Joana Kuntz (joana.kuntz@canterbury.ac.nz) Ph. 03 3642 987 ext 3635
Luke Crossen (lsc55@uclive.ac.nz) Ph. 027 863 7755

Click the link below to participate in the research! You will receive more information about the project and your participant rights at the start of the questionnaire.

Appendix B – Participant Consent Form

CONSENT FORM

The researchers are very mindful of the need to protect participants' interests. The results of this research may be published in academic journals or conference proceedings, and the data collected in the project will be kept for a maximum period of 10 years, or until the data have been processed, whichever occurs sooner. However, any information that you provide will be treated as confidential. The organisation will receive a summary report with no identifying information. Your privacy is of the utmost importance. Performance data will not be able to be linked to any individual responses and the organisation will only be provided with organisation-level results. Only the principal researchers will have access to raw data. Your data will be recoded during the pre-analysis so that the principal researchers will not be able to identify individual participants or their performance. Under no circumstances will any data you supply be disclosed to a third party in a way that could reveal its source. The survey data will be stored on password-protected computers in secured locations in the Psychology Department at the University of Canterbury.

This project has been reviewed and approved by the University of Canterbury Human Ethics Committee, and participants should address any complaints to The Chair, Human Ethics Committee, University of Canterbury, Private Bag 4800, Christchurch (human-ethics@canterbury.ac.nz).

PARTICIPANT CONSENT

- I have read and understood the description of the above-mentioned project.
 - I understand that my participation will involve completing a questionnaire
 - I fully accept that I am giving my consent to participate in this research study.
- Submitting my responses to the survey indicates that I understand and agree to the research conditions.
- I also understand and am satisfied with all the measures that will be taken to protect my identity and ensure that my interests are protected.
 - I understand that I can withdraw from the study up until the point where information is submitted.
 - I understand that I am able to receive a report on the findings of the study by contacting the researcher at the conclusion of the project.
 - I agree to publication of results, with the understanding that my anonymity will be preserved.

Should you accept, please press >> to continue. If you do not agree to these conditions, please close this window in your browser.

Appendix C – Information and Instructions (Follower used as an example)

INSTRUCTIONS

Thank you for participating in our research, your responses are valued. The survey should take approximately **10-15 minutes**. It is preferable that you complete this survey at your place of work. The survey is split into five sections.

Section 1 asks for basic information on your gender and age.

Section 2 asks you to rate your team leader's leadership abilities. For each item you will have five options to choose from, ranging from 'not at all' through to 'frequently, if not always.' Please select the option which best reflects your appraisal of your leader's skills. There will also be a section where you can provide comments explaining or elaborating upon your responses to the items.

Section 3 asks you rate the degree of formalisation within your organisation. A definition of formalisation will be provided. For each item you will have five options to choose from, ranging from 'definitely false' through to 'definitely true.' Please select the option which best reflects how you perceive the item relates to your organisation. There will also be a section where you can provide comments explaining or elaborating upon your responses to the items.

Section 4 asks you rate your engagement. For each item you will have five options to choose from, ranging from 'never' through to 'always/every day.' Please select the option which best reflects how you perceive the item relates to your organisation. There will also be a section where you can provide comments explaining or elaborating upon your responses to the items.

Section 5 asks you to provide any further comments relating to your responses on the survey.

Importantly, there is no right or wrong answer to the survey items, rather we are seeking your honest appraisal on items.

Finally, you will be debriefed and details about vouchers and results will be provided.

Appendix D – Example of Survey Formatting



The following statements concern the degree of formalisation within your organisation. Formalisation refers to the degree to which there are rules and processes within the organisation that have to be followed. Please select the option which you feel best reflects the statement as it relates to your organisation.

	Definitely False	Somewhat False	Neither True nor False	Probably True	Definitely True
It is considered extremely important here to follow the rules	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
People can ignore formal procedures and rules if it helps get the job done	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
Everything has to be done by the book	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
Its not necessary to follow procedures to the letter around here	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
Nobody gets too upset if people break the rules around here	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>

If you have further comments about the degree of formalisation within the organisation, please enter them here.

0% 100%

<< >>

Appendix E – Survey Items

Variable: Engagement; Measure: UWES-9; Reference: (Schaufeli, Bakker, & Salanova, 2006)

Full list – Items will be rated using a 5-point Likert-type response scale from 1 = “never” to 5 = “always/everyday”

1. At my work, I feel bursting with energy.
2. At my job, I feel strong and vigorous.
3. I am enthusiastic about my job.
4. My job inspires me.
5. When I get up in the morning, I feel like going to work
6. I feel happy when I am working intensely
7. I am proud of the work that I do
8. I am immersed in my work
9. I get carried away when I am working.

Variable: Self-leadership; Measure: ASLQ; Reference: (see Houghton & Neck, 2002; Houghton, Dawley, & DiLiello, 2012)

Full list - Items will be rated using a 5-point Likert-type response scale from 1 = “strongly disagree” to 5 = “strongly agree”

1. I establish specific goals for my own performance (self-goal setting).
2. I make a point to keep track of how well I’m doing at work (self-observation).
3. I work toward specific goals I have set for myself (self-goal setting).
4. I visualize myself successfully performing a task before I do it (visualizing successful performance).
5. Sometimes I picture in my mind a successful performance before I actually do a task (visualizing performance).
6. When I have successfully completed a task, I often reward myself with something I like (self-reward).
7. Sometimes I talk to myself (out loud or in my head) to work through difficult situations (evaluating beliefs and assumptions).
8. I try to mentally evaluate the accuracy of my own beliefs about situations I am having problems with (self-talk).
9. I think about my own beliefs and assumptions whenever I encounter a difficult situation (evaluating beliefs and assumptions).

Variable: Leadership Style; Measure: Multifactor Leadership Questionnaire; Reference: (Bass & Avolio, 1996).

Examples of items, full item list is covered under copyright - Items will be rated using a 5-point Likert-type response scale from 1 = “never” to 5 = “very often, almost always”

The person I am rating...

1. Provides me with assistance in exchange for my efforts.
2. Re-examines critical assumptions to question whether they are appropriate.
3. Fails to interfere until the problem becomes serious.
4. Focuses attention on irregularities, mistakes, exceptions, and deviations from standards.
5. Avoids getting involved when important issues arise.

Variable: Formalisation; Measure: Organisational climate measure; Reference: (Patterson et al, 2005).

Self-leadership, leadership styles and employee engagement: Testing moderation models

Full list - Items will be rated using a 5-point Likert-type response scale from 1 = “definitely false” to 5 = “definitely true”

1. It is considered extremely important here to follow the rules
2. People can ignore formal procedures and rules if it helps get the job done
3. Everything has to be done by the book
4. It's not necessary to follow procedures to the letter around here
5. Nobody gets too upset if people break the rules around here

Self-leadership, leadership styles and employee engagement: Testing moderation models

Appendix F – Results of Factor Analysis for ASLQ

Table A. *Exploratory Factor Analysis¹ for items measuring self-leadership*

<i>Items</i>		<i>Factor 1: Behaviour– focussed strategies (BEHV)</i>	<i>Factor 2: Natural–reward strategies (NATR)</i>	<i>Factor 3: Constructive– thought patterns (CONS)</i>	<i>h²</i>
1.	I make a point to keep track of how well I’m doing at work (BEHV)	.58	.07	.10	.35
2.	I work toward specific goals I have set for myself (BEHV)	.95	–.09	–.04	.92
3.	I visualize myself successfully performing a task before I do it (NATR)	.09	.64	.01	.43
4.	When I have successfully completed a task, I often reward myself with something I like (NATR)	–.11	.94	–.03	.88
5.	I try to mentally evaluate the accuracy of my own beliefs about situations I am having problems with (CONS)	.08	–.03	.78	.60
6.	I think about my own beliefs and assumptions whenever I encounter a difficult situation (CONS)	–.11	.03	.79	.66
Eigenvalue		1.73	1.27	.84	
Percentage of the variance (after extraction)		28.88	21.08	13.97	

¹Principal Axis Factor Analysis, Oblimin rotation

Appendix G – Results of Factor Analysis for Formalisation Subscale

Table C. *Exploratory Factor Analysis¹ for items measuring formalisation*

<i>Items</i>	<i>Factor 1: Formalisation</i>	<i>h²</i>
1. It is considered extremely important here to follow the rules	.66	.44
2. People can ignore formal procedures and rules if it helps get the job done	.76	.58
3. Everything has to be done by the book	.65	.43
4. Its not necessary to follow procedures to the letter around here	.77	.60
5. Nobody gets too upset if people break the rules around here	.62	.39
Eigenvalue	2.43	
Percentage of the variance (after extraction)	42.52	

¹Principal Axis Factor Analysis, Oblimin rotation

Appendix H – Results of Factor Analysis for UWES-9

Table C. *Exploratory Factor Analysis¹ for items measuring engagement*

<i>Items</i>	<i>Factor 1: Engagement</i>	<i>h²</i>
1. At my work, I feel bursting with energy (VI-1)	.83	.69
2. At my job, I feel strong and vigorous (VI-2)	.78	.61
3. When I get up in the morning, I feel like going to work (VI-3)	.75	.56
4. I am enthusiastic about my job (DE-1)	.87	.76
5. My job inspires me (DE-2)	.85	.72
6. I am proud of the work that I do (DE-3)	.63	.39
7. I feel happy when I am working intensely (AB-1)	.45	.20
8. I am immersed in my job (AB-2)	.80	.64
9. I get carried away when I am working (AB-3)	.55	.31
Eigenvalue	4.90	
Percentage of the variance (after extraction)	54.39	

¹Principal Axis Factor Analysis, Oblimin rotation

Self-leadership, leadership styles and employee engagement: Testing moderation models

Appendix I – Summarised Results

Table D. *Summarised results.*

<i>Hypotheses</i>	<i>Support</i>	<i>Findings</i>
Hypothesis 1a	Partially Supported	The variable, Behaviour–focussed strategies, was significantly associated positively with intellectual stimulation, idealised influence behaviour, and individual consideration.
Hypothesis 1b	Not Supported	Significant negative association between natural-reward strategies and intellectual stimulation, in contrast to the predicted positive relationship.
Hypothesis 1c	Not Supported	Constructive thought–pattern strategies were not related significantly to transformational leadership.
Hypothesis 1d	Not Supported	Behaviour–focussed strategies was not found to be associated with active MBE.
Hypothesis 1e	Not Supported	Behaviour-focussed strategies was not found to be significantly negatively associated with passive leadership.
Hypothesis 1f	Not Supported	Natural-reward strategies was not found to be significantly negatively associated with passive leadership.
Hypothesis 1g	Not Supported	Constructive thought-pattern strategies was not found to be significantly negatively associated with passive leadership.
Hypothesis 2a	Not Supported	Formalisation did not moderate the relationship between self-leadership and transformational leadership. Formalisation was associated significantly with idealised influence behaviour and individual consideration.
Hypothesis 2b	Not Supported	Formalisation did not moderate the relationship between behaviour–focussed strategies and transactional leadership. Formalisation was associated significantly with contingent rewards.
Hypothesis 3a	Partially Supported	Idealised influence attribute and inspirational motivation was associated positively with follower engagement.
Hypothesis 3b	Not Supported	A negative (not significant) relationship was discovered between active MBE and contingent reward, and follower engagement.
Hypothesis 3c	Partially Supported	Laissez–faire leadership was found to be negatively associated with follower engagement. Passive MBE was not significantly associated with follower engagement.